'Ghost Servers' Haunt Your Bottom Line. Find out if you're still paying for forgotten pieces of IT equipment that sit there like electronic zombies. PAGE 32

COMPUTERWORLD®

Big Brother Really Is Watching

MASTER

Homeland Security is bankrolling futuristic profiling technology to **nab terrorists before they strike.** PAGE 22

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JANUARY 14, 2008
VOL. 42, NO. 3 $5/COPY

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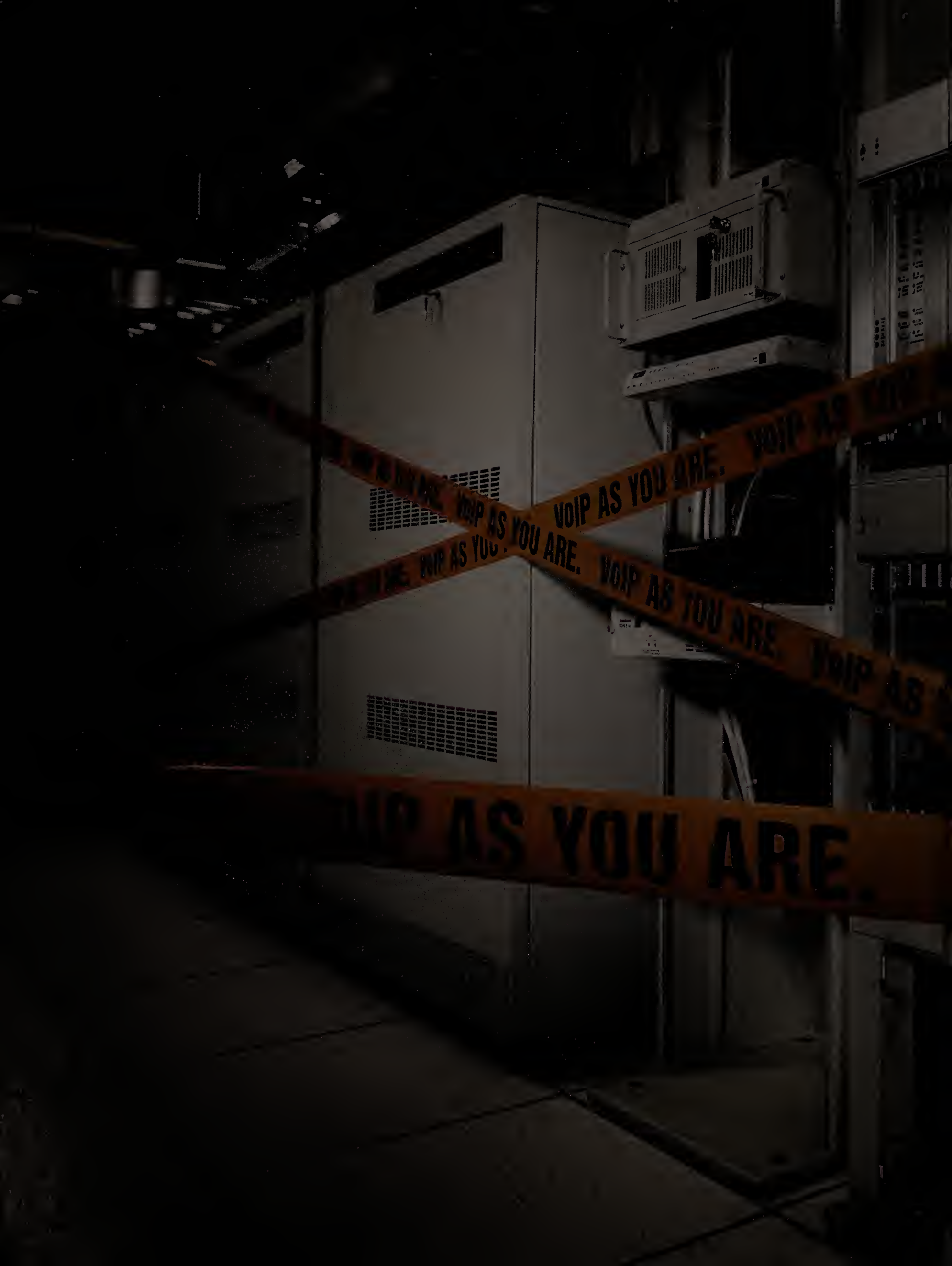
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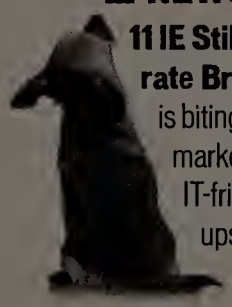

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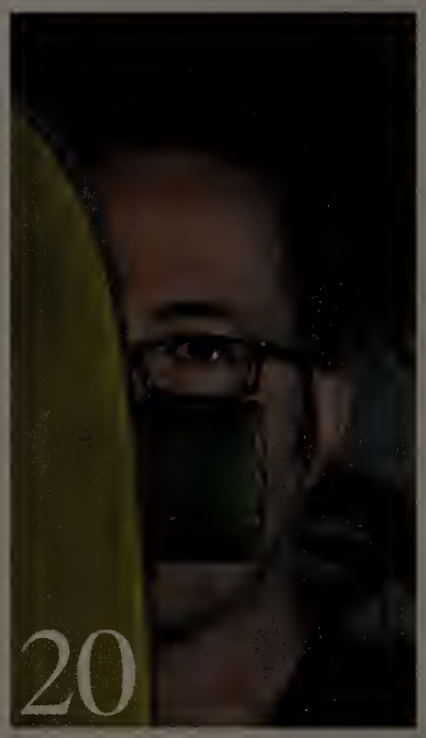

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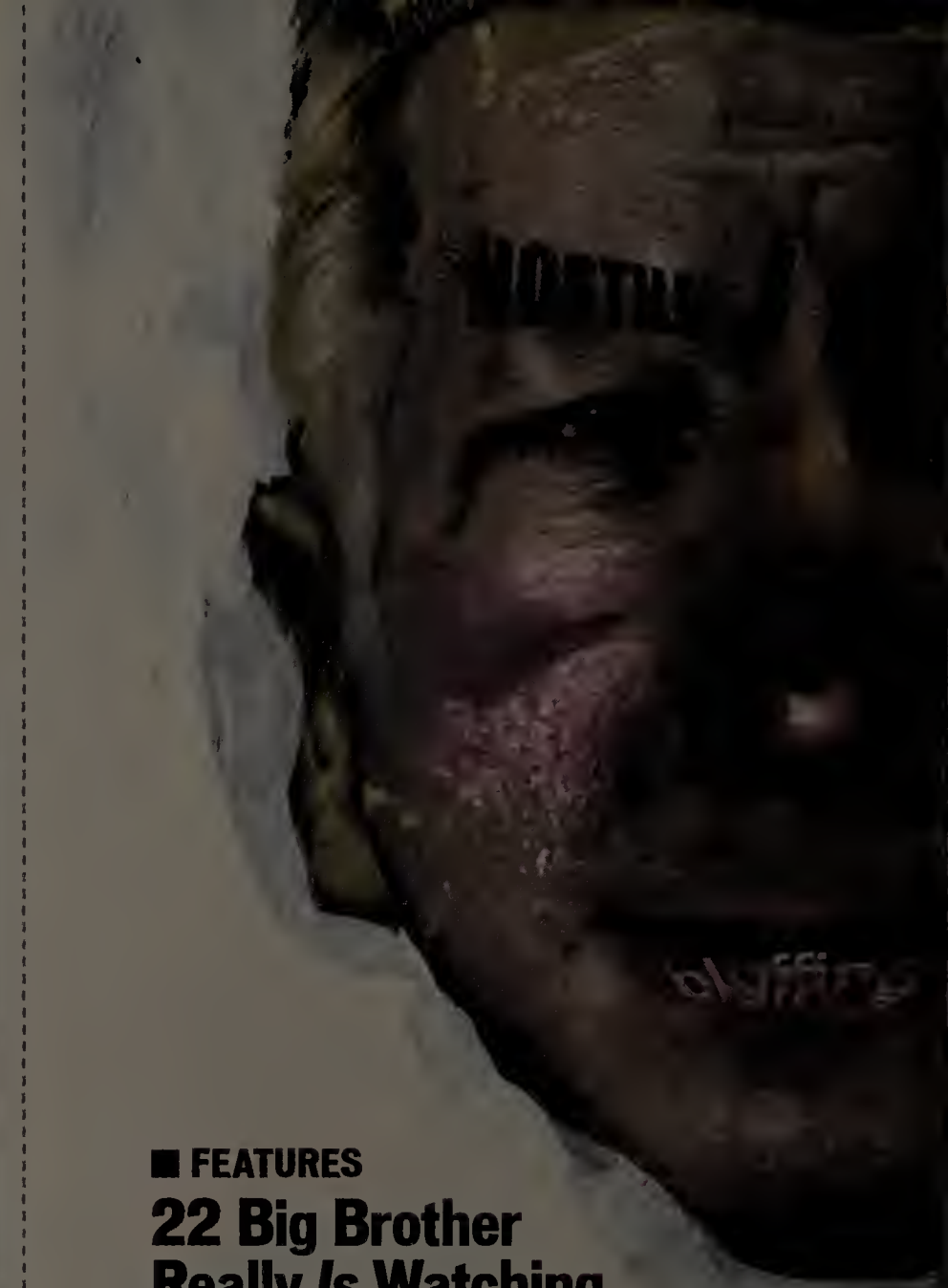

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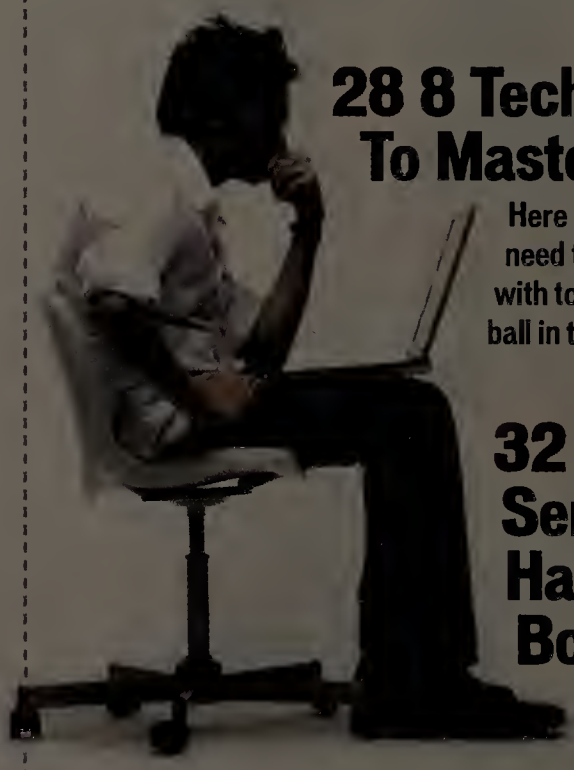

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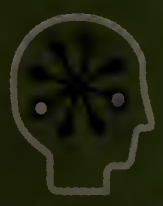
COVER ART BY DAVID HOLLENBACH

02.04.08



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■ EDITOR'S NOTE

Don Tennant

Crossing the Line

THERE IT IS AGAIN: "Big Brother." This time, the term has crept onto the cover of this week's print issue and into the headline of Rob Mitchell's story, which warns that "Big Brother Really *Is* Watching." Few other terms elicit as much emotion as this one does.

I conveyed my lack of patience with that fact in a column I wrote last August about the national identity card debate, when I noted that privacy rights activists had predictably evoked the name of the George Orwell classic *1984* in their rallying cry.

"It's difficult to think of a single published work that has caused more senseless hand-wringing or outright paranoia," I wrote. "It seems all you have to do is whisper '1984' or 'Big Brother,' and you're able to whip people into a privacy rights frenzy that sends them over the common-sense edge."

I got an earful from privacy fanatics after that column, as I did after one I wrote about a year and half ago titled "Thinking the Unthinkable." The latter column was especially controversial, because I argued in support of the idea of implanting locator chips in children. Addressing the unthinkable reality that kids go missing, I stood in support of a comment that former Sun Microsystems CEO Scott McNealy once made on the subject.

"If I could embed a locator chip in my child right now, I know I would do that," McNealy had said. "Some people call that Big Brother. I call it being a father."

It's clear, then, that I find it unacceptable that "Big Brother" concerns too often trump legitimate efforts to ensure our communal security and our individual protection. But there's something else that needs to be made equally clear: There is, to be sure, a line that must never be crossed.

That line often comes into sharp focus for me, as it did during, of all things, Mike Wallace's interview of Roger Clemens last week on *60 Minutes*. The interview with the veteran pitcher focused on allegations that Clemens had taken performance-enhancing drugs — allegations that he has vehemently denied. Near the end of the interview, Wallace asked Clemens if he would be willing to take a lie-detector test to clear his name.

■ Every human being needs and deserves the sanctuary and refuge of his own thoughts.

"Some say they're good, some say they're not," Clemens responded. "I'll do whatever."

I heard myself speaking out loud to the TV screen: "Don't do it," I muttered.

It was a knee-jerk reaction that came amid flashbacks of the times I had been polygraphed during my former career in the U.S. intelligence community. Because of the particular work I was doing, the frequency of the polygraph examinations was even greater than is normally the case in that line of work.

I felt strongly about my service in that capacity, so subjecting myself to the examinations seemed worthwhile. But I dreaded them. It's difficult to describe how intrusive and invasive they feel when you're being asked the most personal of questions

while seated in a chair with sensors strapped around your body and attached to your fingertips, and a blood-pressure cuff gripping your arm. I wouldn't wish that unpleasantness on anyone.

So it was with a great deal of discomfort that I read our cover story, in which Mitchell details efforts by the U.S. Department of Homeland Security to develop technology that virtually probes the body of, say, an airline passenger to determine whether the individual's thoughts are of deception.

The idea is to create a system that would analyze expressions, gestures and voice patterns, and monitor physiological characteristics such as heart and respiration rates, to basically get inside the person's head. The aim is to determine whether the person is thinking things he shouldn't be thinking.

That is the line that must never be crossed. Every human being needs and deserves the sanctuary and refuge of his own thoughts. Track his activity when necessary. Watch him if you must. But don't mess with what he's thinking. Doing so is as unthinkable as it gets. ■

Don Tennant *is editorial director of* Computerworld *and* InfoWorld. *Contact him at don_tennant@computerworld.com, and visit his blog at http://blogs.computerworld.com/tennant.*

Macs Are a Joy to Use, But Not to Develop On

Mark Hall missed a point in his "Apple vs. IBM" Editor's Note of Nov. 26. In order to flourish in the enterprise space, a platform must have the tools needed to build enterprise applications. What are those tools for Mac and Xserve? If the answer is LAMP or something similar, the enterprise will never respond to Apple. LAMP is much less expensive to deploy on non-Apple systems.

I've developed custom applications for small businesses. One of my first clients was a graphics house, and building something for the Mac would have cost twice as much because of the limited number of tools and almost nonexistent aftermarket for components. Most of the graphics tools they wanted were available on PCs. It's always a joy to use a Mac. But not for developers.

■ **Will Fastie,** *IT management consultant, ptCTO.com, Baltimore*

On Netscape's Demise

The Netscape browser has been only a shadow of its former self ever since AOL bought it out, and it has been almost completely irrelevant for at least five years ["Microsoft: Now-Dead Netscape Shows Antitrust Decree Worked," *Computerworld.com*, Jan. 2]. The real successor of Netscape is the Mozilla Foundation, which Netscape established. Besides, the death of the competitor whose mistreatment prompted the original Microsoft antitrust case is hardly a logical argument for dismissal.

■ **John L. Ries,** *Cedar City, Utah*

Old-timers Know Virtualization

It's great that Microsoft is coming out with a reasonably complete model for virtualization ["Windows Server 2008 Revealed: Hyper-V Virtualization," *Computerworld.com*, Dec. 20]. If people need to know more, they can ask Really Old People — the ones who have been using this concept for an entire generation now on IBM mainframes, in the context of both VM and PR/SM. Or the curious can ask Slightly Old People — the ones who used to run Windows under IBM's OS/2, long before Microsoft's Windows was stable enough to run for an entire working day without a reboot.

■ **Sean A. Dunn,** *McLean, Va.*

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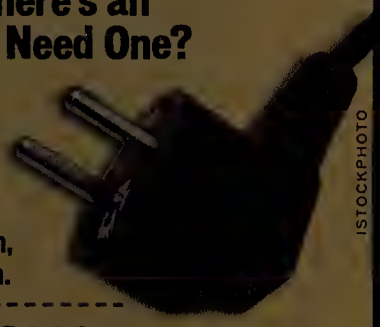
Can Macs Conquer The Enterprise?
The field is wide open for a Macintosh insurrection on the business desktop. It could happen but probably won't. Here's why.

Review: Two New 22-in. LCDs Offer Great Views
Two new displays from Envision and Lenovo offer good-quality video for desktops that can't handle larger monitors.

Q&A: Ohio Secretary Of State Jennifer Brunner
Ohio has been the epicenter of controversy over e-voting for a while now, but recent action from the secretary of state's office may start to drain that swamp. Brad Friedman asks a few pointed questions.

Energy Crisis: Where's an Outlet When You Need One?
As electronic gadgets become increasingly pervasive, ways to keep them powered are failing to keep up. It's a problem that screams for a solution, says columnist Mike Elgan.



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News From CES 2008
Get the scoop on what was hot at the recent International Consumer Electronics Show, from Bill Gates' goodbye video spoof to hardware recycling, mega disk drives and a bunch of cool gadgets.

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News Digest

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THE WEEK AHEAD

MONDAY: Cognos shareholders are slated to vote on IBM's proposed acquisition of the business intelligence vendor. The next day, Cognos will announce a new version of its business performance management software in New York.

TUESDAY: Oracle plans to issue 27 security fixes, including critical updates for its databases and business applications.

TUESDAY: Macworld Conference & Expo opens in San Francisco; Microsoft is due to release Office 2008 for Mac there.

GETTY IMAGES

DATA CENTER

Robbery Alters Thinking On Data Center Security

IN OCTOBER, Web hosting vendor C I Host Inc.'s data center in Chicago was robbed by two masked men, who allegedly pistol-whipped a lone IT staffer working the graveyard shift and then held him hostage for two hours while stealing computer equipment.

It's rare for data centers to be attacked so brazenly. Typically, they're secured by protections such as steel doors, security guards and electronic access controls.

But Christopher Faulkner, CEO of Irving, Texas-based C I Host, said this month that he no longer thinks data centers are as secure as most IT managers believe they are. And he added that he sees the armed robbery as a wake-up call for other organizations.

There have been scattered reports of other robberies, including one last year in London. But William DiBella, president of AFCOM, a professional association for data center managers, contended that IT facilities aren't low-hanging fruit for criminals. "Most data centers are very well hidden and secure," DiBella said.

Even so, Faulkner claimed that most data center owners haven't planned for the worst possible occurrences. "Data center security, in the past five years, has been about the show for the customer," he said.

C I Host's Chicago data center is in a leased building. According to Faulkner, the robbers entered the building via a fire escape. A security guard wasn't at his post, and the thieves waited in a hall for the IT staffer who was on duty to leave the data center.

After accosting and subduing the employee, the two men swiped his badge through a reader, entered his PIN on a keypad outside the door to the data center and forced him to do a fingerprint scan, Faulkner said.

Since the robbery, Faulkner has adopted new security measures, which he declined to disclose, except to say that he hired an armed guard who works directly for the company.

C I Host, which has two other data centers, in Dallas and Los Angeles, also now trains its staffers on how to respond to such incidents. Faulkner said the training can be boiled down to this message: "Fully cooperate" with any intruders.

— Patrick Thibodeau

Six Firms Settle Software License Disputes

last week agreed to pay nearly $700,000 collectively to settle claims that they used unlicensed software from several vendors.

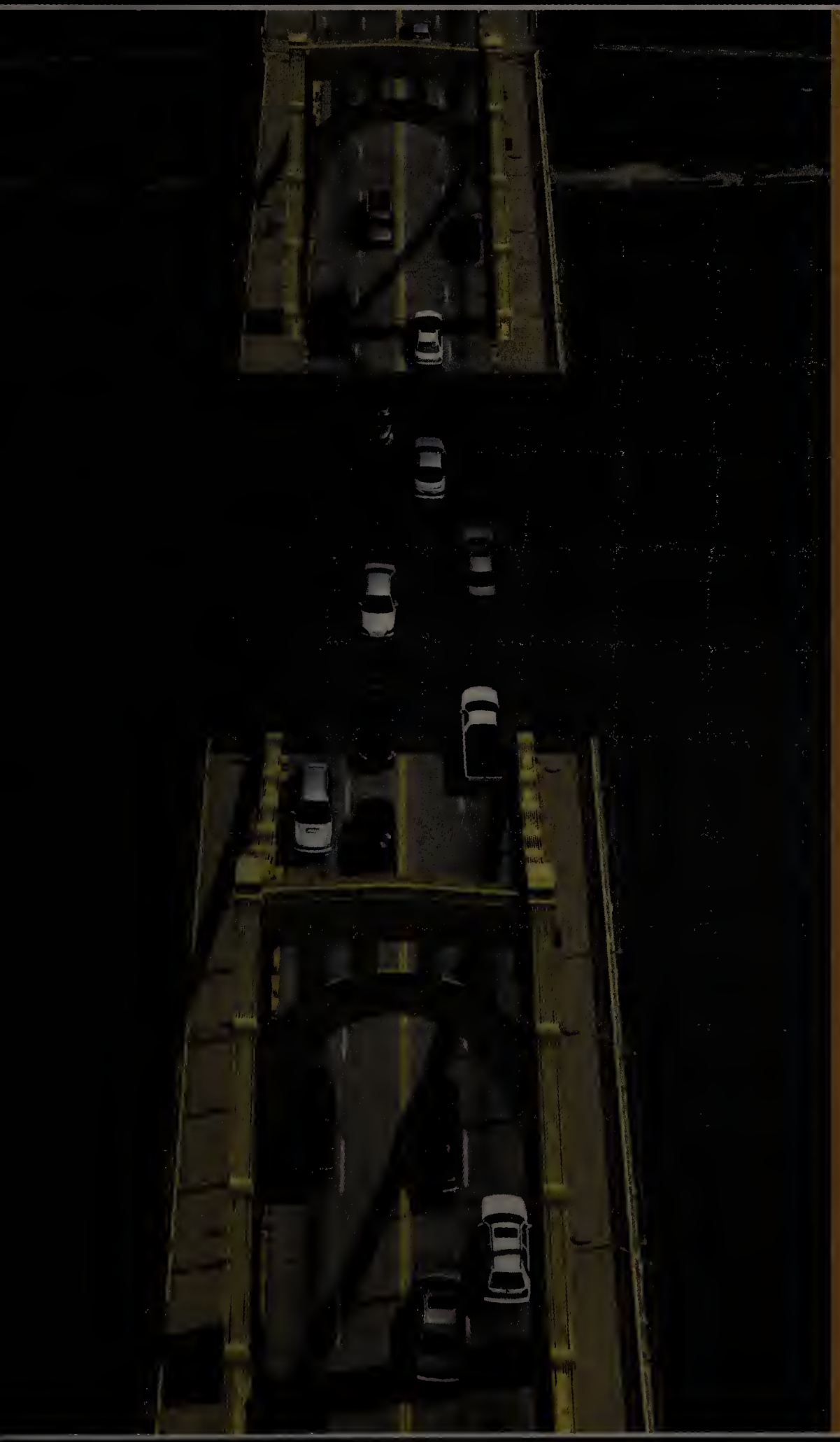
The Business Software Alliance said that the settlement also requires the companies to delete all of the unlicensed software copies, acquire any needed licenses and implement strong software licensing management practices.

The BSA, a trade group representing several IT vendors, said the six firms include mortgage brokers, media companies and retailers in the Midwest and New York.

"We wish it weren't necessary, but enforcing copyrights has proven to be the best way to encourage businesses to take any steps necessary to become compliant," said Jenny Blank, the BSA's senior director of legal affairs.

– GRANT GROSS, IDG NEWS SERVICE

WHEN INFORMATION AVAILABILITY MATTERS



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CYBERCRIME

'Hacker Safe' Web Site Suffers Security Breach

EVEN IF a Web site displays a seal certifying that it is hackproof, it may not always be immune to security breaches.

A case in point is Geeks.com, which on Jan. 4 began notifying an undisclosed number of customers that their personal and financial data may have been compromised. The online technology retailer, whose formal name is Genica Corp., said in a warning letter that it discovered the system intrusion on Dec. 5.

The compromised information included names, addresses, telephone numbers and Visa credit card numbers, according to a copy of the letter posted on The Consumerist blog.

Geeks.com is a $150 million company specializing in the sale of excess inventory and manufacturers' closeouts. Its Web site says that it is tested on a daily basis by ScanAlert Inc., which offers a service that constantly monitors sites for vulnerabilities.

But ScanAlert spokesman Nigel Ravenhill said via e-mail last week that the vendor, which is being acquired by McAfee Inc., had withdrawn its Hacker Safe certification from Geeks.com "several times" last year after finding vulnerabilities in the retailer's systems. Geeks.com fell out of compliance last June and again in December, he said.

"Preliminary evidence uncovered while investigating this matter suggests that the breach most likely occurred during one of these periods," Ravenhill wrote.

He added that each time ScanAlert withdrew its certification, Geeks.com fixed the problems. The retailer currently meets the requirements for the Hacker Safe logo, Ravenhill said.

A telephone operator at Geeks.com's headquarters in Oceanside, Calif., said she was unable to find anyone who could comment about the incident.

According to the letter sent to customers, the intrusion has been reported to Visa Inc., local law enforcement authorities and the U.S. Secret Service.

Geeks.com has also hired a consulting firm "to determine how this incident occurred and to confirm that information we obtain is protected to the fullest extent reasonably possible," wrote Chief of Security Jerry Harken.

— Jaikumar Vijayan

Short Takes

Microsoft Corp. has released a patch to fix a critical flaw in the Windows operating system that could be used by criminals to create a self-copying computer worm attack. A second patch fixes a less serious flaw that lets hackers steal passwords.

The **state of New York** has launched an investigation to determine if **Intel Corp.** violated antitrust laws by coercing customers to not use processors from rival **Advanced Micro Devices Inc.** Intel has faced similar investigations in Europe and Asia. (See related item, page 9.)

Microsoft last week agreed to buy Oslo-based search software firm **Fast Search & Transfer ASA** for $1.3 billion in cash. Microsoft said it hopes to integrate Fast's high-end products with its SharePoint search technology.

Jeff Raikes plans to retire as president of **Microsoft's business division** in September. He will be replaced by Stephen Elop, former chief operating officer at Juniper Networks Inc.

SECURITY

Mailing Exposes Personal Data of Wisconsin Residents

THE WISCONSIN Department of Health and Family Services last week called on Electronic Data Systems Corp. to explain how Social Security numbers were printed on the address labels of brochures sent to more than 260,000 recipients of state health services.

The state agency is asking the Plano, Texas, outsourcer to explain the gaffe, pay the costs involved in notifying affected individuals of the error and provide each with a year of credit-monitoring services.

"They need to explain to us what happened and what they are doing to ensure this doesn't happen again," said Karen Timberlake, deputy secretary of the state agency.

> **"The question that everyone has is, how, with all of the sensitivity around protection of Social Security numbers, could this have happened?**
>
> KAREN TIMBERLAKE, DEPUTY SECRETARY, WISCONSIN DEPARTMENT OF HEALTH AND FAMILY SERVICES

An EDS spokesman called the incident an isolated error that occurred when the address file was created earlier this month. The company plans to take "appropriate actions" against those involved, he added.

Timberlake said that EDS has worked on state Medicaid services for 30 years and mailed similar brochures many times, and this is the first such error.

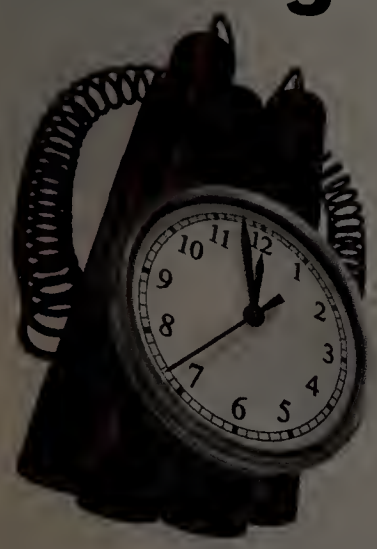
"The reality is . . . you can't prevent human error," she said.

The incident comes just over a year after the Department of Revenue disclosed that Social Security numbers were mistakenly printed on mail sent to 171,000 Wisconsin taxpayers.

– JAIKUMAR VIJAYAN

SECURITY

IT Worker Jailed for Creating Logic Bomb



ISTOCKPHOTO

A FORMER SYSTEMS administrator at Medco Health Solutions Inc. last week was sentenced to 30 months in federal prison for planting a logic bomb that could have taken down a corporate network that held personal health care information.

Yung-Hsun Lin, 51, of Montville, N.J., who was sentenced in a federal court in Newark, faced a maximum 10-year prison sentence. He had pleaded guilty to one count of computer fraud in September.

Lin was responsible for programming and maintaining the 70 HP Unix-based servers at the Franklin Lakes, N.J.-based pharmacy benefits management company, where he worked from 1997 to 2005. The systems held client medical and billing data, along with corporate financial applications.

"This case is unique in that it touches on the public health system," said Assistant U.S. Attorney Erez Liebermann, who prosecuted the case.

The logic bomb, designed to delete "virtually all of the information" on Medco's servers, was written by Lin and planted in multiple scripts on the company network, according to court documents.

The malicious code was initially set up to be triggered on April 23, 2004, but it failed because of a coding error. Lin reset it to deploy a year later, but a co-worker discovered and disabled the bomb, Liebermann said.

— Sharon Gaudin

PENALTIES

- 30-month prison sentence
- $81,200 restitution payment
- Two years of supervised release
- No computer use until supervised release ends

BETWEEN THE LINES *By John Klossner*

LAST WEEK

Bill Gates, Microsoft Corp.'s outgoing chairman, said at the 2008 International Consumer Electronics Show in Las Vegas that the software vendor has now sold more than 100 million licenses for Windows Vista.

The White House Office of Management and Budget said it will release the federal government's first-ever paperless budget on Feb. 4. OMB officials expect the "e-budget" to save nearly $1 million over five years.

ONE YEAR AGO: NCR Corp. announced a plan to spin off Teradata Corp., its data warehousing division.

Global Dispatches

Suit Filed to Block German E-vote

BERLIN – A computer club is seeking an injunction in a German court to prevent the use of electronic voting machines in state elections later this month.

The Chaos Computer Club, founded here in 1981, contends that the German government doesn't have the technical knowledge to ensure that the e-voting machines are not manipulated, a spokesman said. The club supports the use of paper ballots, he said.

In the Jan. 27 elections, eight cities and districts in the German state of Hesse plan to use e-voting machines made by Groenlo, Netherlands-based N.V. Nederlandsche Apparatenfabriek and software developed by Hilversum, Netherlands-based Groenendaal.

The club contends that tests mandated by the Hesse Ministry of the Interior would not help ensure that criminals would be unable to hack the devices.

Jeremy Kirk,
IDG News Service

Intel Answers EC Antitrust Charges

BRUSSELS – Intel Corp. has formally responded to antitrust charges filed against it by the European Commission. Intel also requested that the EC schedule a hearing on the allegations.

In July, the EC accused the chip maker of handing out "substantial rebates" to computer manufacturers that agreed to buy the bulk of their x86 chips from Intel.

It also accused the company of paying computer makers to delay the launch of computers based on chips from rival Advanced Micro Devices Inc.

Details of Intel's response were not disclosed.

Paul Meller,
IDG News Service

BRIEFLY NOTED

China Electronics Import & Export Co. has announced plans to sell its 30% stake in Hewlett-Packard Co.'s Chinese operations. The state-owned firm set a minimum price of 967 million yuan ($134 million U.S.) for its share.

Sumner Lemon,
IDG News Service

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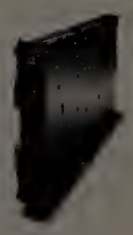

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GETTY IMAGES

IE Still Top Dog In Corporate Browser Kennel

Deployment and management issues are keeping Firefox leashed at many companies, enabling Internet Explorer to remain dominant. **By Eric Lai**

WITH A new CEO on board and a major update of its Firefox Web browser expected this year, Mozilla Corp. hopes to reinvigorate its campaign to pull users away from Microsoft Corp.'s still-dominant Internet Explorer software.

But the Mountain View, Calif.-based open-source vendor continues to expend little energy on wooing IT managers to formally adopt Firefox for deployment within their organizations.

In the past, Firefox faced two main obstacles among enterprise users: its immaturity, and its incompatibility with corporate Web applications and intranets that relied on Microsoft technologies such as ActiveX.

Now nearly three and a half years old and nearing the release of Version 3, Firefox no longer can be accused of being callow. And while many IE-only apps remain, plenty of others have been overhauled to support Firefox as well, according to Rafael Ebron, general manager of Browser Garage LLC, a Web consulting firm in Mountain View.

However, other obstacles to broader adoption have emerged. Mozilla has thus far neglected to develop tools to help IT departments deploy and manage Firefox, and it doesn't offer paid technical support services to risk-averse corporate users.

"The enterprise is looking for a neck to choke, and that is absolutely what is missing from Firefox," said Ebron, a former product manager for Firefox and its predecessor, Netscape Navigator. "If you have a problem with IE and you are a big enough customer to Microsoft, [CEO] Steve Ballmer is going to come out and talk to you. That isn't there yet from Mozilla. It isn't their focus."

Mozilla claims that Firefox has more than 125 million users. And according to market researchers, the open-source browser has made some steady, albeit relatively small, inroads against IE on usage.

For example, Net Applications Inc., an Aliso Viejo, Calif.-based company that tracks visitors to about 40,000 Web sites, said Firefox held a 17% share of browser usage in December, compared with 76% for IE.

Similarly, Janco Associates Inc. in Park City, Utah, currently gives Firefox a 16% usage share among visitors to 17 business-to-business Web sites that it monitors. Janco places IE's share at 67% while giving 9% to Netscape and 3% to Google Desktop. (NetApplications credits Netscape with only a minuscule market share, and it doesn't include Google Desktop in its rankings.)

Firefox's market share has increased from 14% since last January, while IE's share has eroded by two percentage points, according to Janco. But Firefox's gains have mostly come from workers installing the browser on their own, without IT's blessing, noted Janco CEO Victor Janulaitis.

"Users are frustrated with Microsoft's product, and more people are starting to experiment in enterprises with Firefox," he said.

Firefox may gain more users following AOL LLC's Dec. 28 announcement that it will discontinue Netscape Navigator — and its recommendation that users switch to Mozilla's browser.

But Mozilla's laissez-faire attitude toward corporate users can lead to awkward situations, such as the one

at a leading vendor of Web-based software. The CIO, who asked not to be identified, said his company is a longtime Microsoft shop that has standardized on IE as its browser of choice.

Even so, all of the applications that the vendor sells or uses internally can run on multiple browsers. And demand for Firefox among its employees is so heavy — "Salesforce.com runs better in Firefox," one worker told the CIO — that the internal ratio of Firefox to IE usage is about 60:40.

The big downside is the difficulty of managing Firefox, especially in comparison with administering IE, according to the CIO. For example, he said the IT department can patch IE via automated central updates. On the other hand, he said, "we have to send an e-mail and have users manually download Firefox updates, which is not ideal."

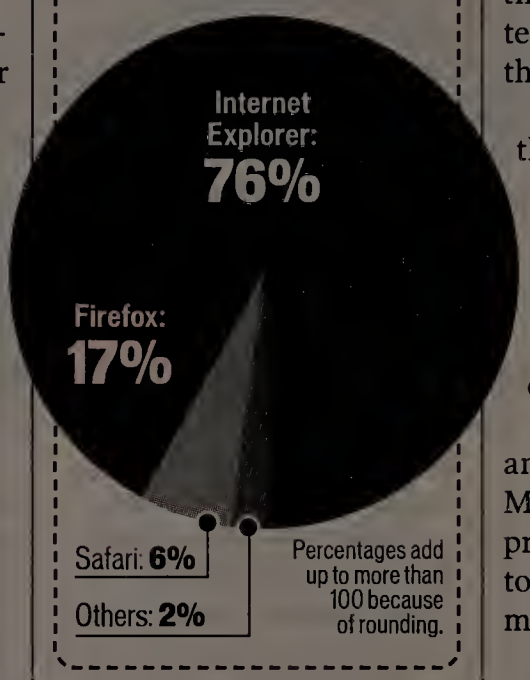
That won't change in Firefox 3. A beta release available now lacks features that IT managers typically want, such as the ability to automatically deploy multiple copies of Firefox through Windows Installer package files — better known as .MSI files. The update also can't be patched from a central console, like IE can be through Microsoft's Windows Server Update Services. Nor can it be managed and secured via Active Directory, Microsoft's tool for setting group policies.

As a result, many IT staffs looking for help in rolling out or managing Firefox have resorted to using free third-party tools.

One, FirefoxADM, lets administrators centrally manage locked or default settings in Firefox via group policy settings in Active Directory. Another, called FrontMotion, offers basic .MSI installation packages for Firefox for free and custom ones for a small fee.

Click Data

Overall browser market share in December, based on tracking of visits to about 40,000 Web sites.



SOURCE: NET APPLICATIONS INC., ALISO VIEJO, CALIF.

FirefoxADM has been downloaded about 22,000 times, according to Mark Sammons, a senior computing officer at the University of Edinburgh, who created the tool and is using it to manage Firefox on 8,000 PCs at the Scottish school.

FrontMotion's installers have been downloaded nearly 131,000 times, said Eric Kuo, its developer. By day, Kuo works as an IT director at a medical company in Lubbock, Texas, that he asked not be identified.

Both FirefoxADM and FrontMotion are open-source products. But each is largely developed by a moonlighting individual. That has hurt FirefoxADM, in particular; Sammons acknowledges that he hasn't added any new features to the management tool in the past two years.

"I have no illusions as to what FirefoxADM is," he wrote in an e-mail. "I think it works well, but ultimately, it's a work-around for functionality that really needs to be built into Firefox itself."

An even bigger problem is that Mozilla hasn't formally tested and certified either of the two tools.

"It's absolute FUD to say that you can't administer Firefox well within an Active Directory environment with third-party tools," Ebron said, using the acronym for "fear, uncertainty and doubt."

Nonetheless, both he and Kuo said that having Mozilla's official seal of approval would be a big plus to corporate users planning major deployments.

"It comes down to a perception of who owns the tools, not the tools themselves," Kuo said. He noted that preliminary talks with Mozilla about selling FrontMotion — a move he would welcome — went nowhere.

VENDOR RESISTANCE

Mozilla has no plans to more tightly integrate Firefox and Active Directory, according to Chris Hofmann, the open-source vendor's director of special projects. He dismissed Active Directory as a "proprietary technology" that would hurt rather than help Firefox administrators.

"Multiple levels of permissions applied across different groups adds a lot of complexity," he said. "If you look at the track record for that feature, it's resulted in less security for IE."

But Hofmann acknowledged that users are clamoring for Mozilla to provide more enterprise tools. For example, on a public wiki maintained by Mozilla's Firefox Enterprise Working Group, .MSI installers and better tools for preferences management top a new-features wish list.

Automated installers are relatively easy to create, and such a tool "might come sooner" from Mozilla than one for Active Directory would, Hofmann said. But he added that Mozilla has no plans to acquire or certify third-party tools or to set up a paid support business for enterprise users.

Mozilla's stance doesn't surprise Kuo, who claimed that the organization is dominated by developers who would be unlikely to find the idea of starting an IT support business sexy.

Kuo added that he doesn't think Mozilla will suddenly change its attitude and develop a browser deployment tool that could render FrontMotion obsolete. Mozilla "could create it themselves," he said. "But it's obviously not their priority."

Michael Kaply, a senior software engineer at IBM who calls himself a "Firefox advocate," said that the browser is being used by about 72,000 of the IT vendor's 360,000 employees.

IBM still runs some Web applications that work only with IE. But it is building in Firefox support, Kaply said via e-mail. For example, a travel reservation application was recently switched to a cross-browser design. "That was a big hurdle," he wrote.

But in a September blog posting, Kaply lamented that the number of participants on Firefox Enterprise Working Group conference calls had "dwindled." And in an earlier posting, he said that he thought most large companies that had adopted Firefox were using it "as a secondary browser" only. ■

Gregg Keizer contributed to this story.

Advertisement

How to Protect and Improve System Performance

The Top Ten Points to Know about Fragmentation

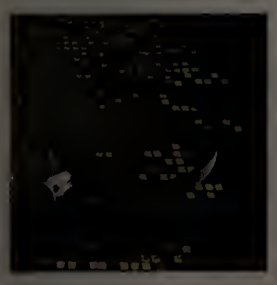
IT professionals are heroes of the workplace. Whether with cunning wit or a Phillip's head screwdriver, they solve most any computer emergency. However, keeping a computer running at top speed is usually preventative maintenance instead of last-minute, adrenaline-surging, virus-vaccinating heroics.

Here are 10 key points to maintain peak performance across any network:

1. The hard-disk is the slowest part of any system. Say you are operating a 2.5 GHz processor. That's 2.5 billion operations every second. A large number of hard disks only spin at 7200 rotations per minute, or 120 cycles per second, or 120 Hz. This means your CPU is more than 20 million times faster than the hard disk. The hard disk still has mechanical components. Think *Terminator* 2®, when a mechanized Schwarzenegger is outclassed by the faster, smarter T-1000. When the slowest part of your computer is making unnecessary reads, the entire system is dragged down.

2. Fragmentation has severe affects. It's more than sluggish and crawling computer speeds; fragmentation leads to crashes, hangs, data errors, file corruption and boot-time failures. Files that suffer fragmentation are more difficult and take longer to back up. When systems are thoroughly defragmented, they run faster and more reliably—period.

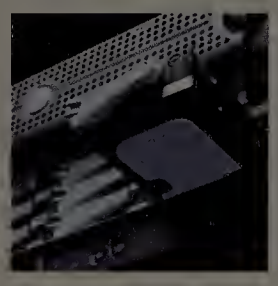
3. Real-time defragmentation is necessary. Many companies rely on 24/7, mission-critical servers. Taking these systems offline for maintenance is not an option. But, having a server with I/O bottlenecks is also not an option. Only real-time, invisible defragmentation fixes this catch-22 situation.



4. Give your systems faster-than-new speeds. NTFS best-fit attempts for file placement on hard drives are limited. Diskeeper® 2008 comes with a new technology called I-FAAST™ (Intelligent File Access Acceleration Sequencing Technology)[1] that re-sequences your files. So, in addition to consolidating free space, defragmenting with Diskeeper boosts access to your most frequently used files by as much as 80%. I-FAAST gives systems faster-than-new speeds.

02.04.08

5. Servers are especially susceptible. While disk striping improves physical I/O capacity and performance, RAID and SAN systems simply do not fix fragmentation where it begins—at the file system. Enormous volumes with heavy read/write activity lead to astronomical fragmentation rates, making RAID and SAN work harder than they should. The efficiency of RAID and SAN may lessen some of the physical effects of fragmentation, but fragmentation is never eliminated. You'll need to buy more and more equipment to compensate. Sooner or later, the tortoise catches the hare, and your system suffers I/O bottlenecks and slow server speeds.



6. Operate without interrupting productivity. The new InvisiTasking™ technology makes software transparent. Diskeeper 2008 with InvisiTasking will work invisibly in the background; only using untapped resources. Systems are continually improved without any management or impact on a system's usability.

7. Defragment despite minimal free space. The purpose of defragmentation is to restore lost speed and performance. A defrag engine must be able to operate in limited free space, because drives with extremely limited free space are the ones in need of the most help. Diskeeper 2008 handles millions of fragments and can function with as little as 1% free space.

8. Stop fragmentation before it happens. Diskeeper 2008 comes with Frag Shield™ 2.0, a technology that automatically defends against fragmentation of critical system files. Frag Shield 2.0 prevents crash-inducing fragmentation. It's like Superman® saving the day—two days before there's a problem.

9. Auto-defrag breathes life into systems. It keeps systems at optimum speeds and eliminates fragmentation-related performance issues. Thoroughly defragging systems adds 2–3 years onto the hardware's useful life.[2]

10. Analyze your network's performance. Poor performance on a remote system can easily be mistaken for a slow network. Get Disk Performance Analyzer for Networks™. This free utility scans networked systems for fragmentation. See for yourself how fragmentation is affecting your systems. This groundbreaking program will provide comprehensive reports on how system speeds will improve with thorough defragmentation. Visit www.diskeeper.com/cw2 and get this free, must-have utility.

Diskeeper 2008 is the only fully-automated defragmentation program. It operates invisibly in the background and it dynamically adapts defragmentation strategies to fit the needs of individual volumes.

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Green PC Push by Feds May Seed Wider Adoption

Federal agencies are being required to buy eco-friendly PCs and monitors — a mandate that likely will broaden the availability of such systems.

By Patrick Thibodeau

THE U.S. government is moving ahead with a plan to require federal agencies to buy PCs and computer monitors that are energy efficient and have reduced levels of toxic chemicals. And because of the government's massive buying power, the plan likely will affect systems bought by corporate users as well.

The U.S. Department of Defense, NASA and the General Services Administration jointly detailed an interim rule on the green IT purchasing requirements in the Federal Register on Dec. 26.

The draft rule hews to an executive order signed by President Bush last January mandating that agencies use the Electronic Product Environmental Assessment Tool.

EPEAT is a three-tiered rating system developed by the Green Electronics Council in Portland, Ore. Qualifying desktop systems, laptops and monitors are awarded gold, silver and bronze ratings based on 51 criteria, such as ease of disassembly and the absence of paints or coatings that aren't compatible with reuse or recycling.

Products must conform to 23 of the criteria to get a bronze rating, the minimum level required. To earn a silver or gold rating, devices have to meet more-stringent standards — for example, 90% of the materials used to make them must be reusable or recyclable.

The federal government has a total installed base of 6.7 million desktops and laptops, and it buys about 2.2 million new systems annually, according to Shawn McCarthy, an analyst at market research firm IDC. Because the government is such a large user, PC vendors will hustle to comply with the new federal rule, McCarthy said.

And since the vendors don't make PCs specifically for government users, he added, "you will see spillover into other sectors, much as you did once the government pushed Energy Star compliance back in the mid-1990s." Energy Star is an energy efficiency rating system developed by the Environmental Protection Agency.

Several major agencies already adhere to EPEAT criteria, including NASA, the EPA and the Department of Homeland Security. Some private-sector firms have adopted it as well. For instance, Kaiser Permanente buys about 5,000 PCs per month that meet the EPEAT criteria, said Dean Edwards, vice president and chief procurement officer at the Oakland, Calif.-based health maintenance organization.

Of particular interest to Kaiser is EPEAT's requirement that desktops and laptops conform to the strictures of the Energy Star program. The EPA revised its efficiency standards for PCs last summer, and Edwards said that systems purchased by Kaiser since November consume 20% less power than prior models did.

Enforcing environmental standards can help cut the total cost of ownership on PCs, according to Edwards, who also would like to apply EPEAT to copiers and multifunction printers. Kaiser currently aims to buy PCs with silver ratings, but Edwards said the HMO eventually may make the gold rating its purchasing goal.

Only a few vendors have earned gold EPEAT ratings thus far. Dell Inc., for instance, has six products with gold ratings and 72 at the silver level. Hewlett-Packard Co. has earned a gold rating for one desktop system, plus 73 silver ratings. Apple Inc. has 17 products that meet the requirements for a silver rating.

Wayne Rifer, EPEAT operations manager at the Green Electronics Council, said PC makers that are members of the group were involved in the development of the rating system. Many took part because they were concerned that state governments might adopt their own environmental rules for IT purchases, resulting in a hodgepodge of standards. "That is a very strong motivator — probably the core motivator for them to be engaged," Rifer said.

Each month, Kaiser Permanente buys about 5,000 PCs that meet the criteria of the EPEAT environmental rating system.

Some PC buyers require ratings higher than a bronze, according to Rifer. For instance, he said that the Canadian government mandates at least a silver rating on products and gives extra points during the contracting process to bidders that have gold ratings. ■

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MATTHEW FAULKNER

VMs Boost SAN Costs

THE LAW of unintended consequences is rearing its head in the realm of server virtualization, says Bryan Semple, vice president of marketing at Onaro Inc. in Boston. He claims that the vast majority of VMware Inc.'s ESX server deployments are connected to SANs. And because virtual machines are a snap to create, he thinks server administrators will be tempted to install them willy-nilly to satisfy end-user demand for more capacity. However, Semple warns, each time a VM is created, "a physical part of the disk on the SAN is allocated." He speculates that administrators will overprovision SAN arrays and disks in order to handle the added VM load on storage, thus undermining the cost-saving argument for VMs. Naturally, Onaro has a fix. Its VM Insight, a new module for its SANscreen product family, will ship this week. Semple says the software gives admins information on how server VMs are affecting storage capacity and assist with planning, provisioning and other storage services. Pricing for SANscreen starts at $85 per SAN switch port.

Semple: Watch for overprovisioning of SANs with VM.

Control Your VMs

Virtual machines should make IT managers nervous. Yes, they save labor and hardware costs in companies with tight data center budgets. Plus, you don't have to hassle with Purchasing to get new hardware, and you can roll up the internal IT bureaucratic folderol of systems, network and security administration into one job.

But that "collapsing of business processes" worries Michael Berman, chief technology officer at Catbird Networks Inc. in Scotts Valley, Calif. He argues that VMware's Hypervisor adds two problems to your data center. Specific security vulnerabilities in the hypervisor code are one thing, but Berman says the second area, change control, is by far the more critical. He claims that Catbird's new HypervisorShield service not only detects hypervisor vulnerabilities, but also lets you apply corporate change-control policies to your virtual world — an absolute necessity for complying with requirements for separation of duties in the data center. According to Berman, the new service "looks over the shoulder of the virtual machine administrator" to ensure that everything is running according to Hoyle. The service begins today at $18 per month.

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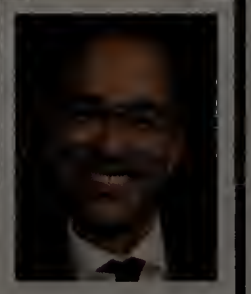
IDC's prediction for the VM server market in 2009.

Welcome the Plastic Chip

Hal Bennet, CEO of Third-Order Nanotechnologies Inc. in Wilmington, Del., says his company has proved in the lab that its "heterocyclic polymer"-based technology can "switch light" at speeds up to 100Gbit/sec. If that lab work can make it to the real world, in a few years you'll be buying blazingly fast network gear whose core intelligence runs on plastic. Although he acknowledges that many vendors "have cried wolf in the past about polymer technology," Bennet claims that Third-Order Nano will demonstrate the real thing in Q2 of this year. Why is this a big deal? According to Bennet, "silicon peters out at 10G Ethernet," and to get to higher data rates, you need advanced microprocessor technology — such as gallium arsenide, which is far more expensive and less flexible to design into products. He adds that a polymer-based Internet infrastructure would boost bandwidth a thousand times but shouldn't cost a nickel more. "It'll be a gigabit spigot for 30 bucks a month," he predicts. That would be wonderful, of course, so long as "heterocyclic polymer" isn't just a technical term for "wolf." ■



As in *The Graduate*, the future is plastic, says Bennet.

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DORIAN JOHNSON

Dossier

Name: William 'whurley' Hurley

Title: Chief architect of open-source strategy

Organization: BMC Software Inc.

Location: Houston

Favorite movies: *The Big Lebowski* and *Office Space*

Previous career that most people don't know about: Member of a touring funk band; plays guitar, bass, drums and keyboards

Wheels: A lime-green 2006 Scion XB

Favorite food: Sushi and other Asian cuisines

Current read: *The Black Swan*, by Nassim Taleb

Favorite place to take his 11-year-old son: Dave & Buster's arcade and sports bar. "He loves the zombie games; he can't get enough of those. And he loves winning tickets in the game machines."

■ THE GRILL

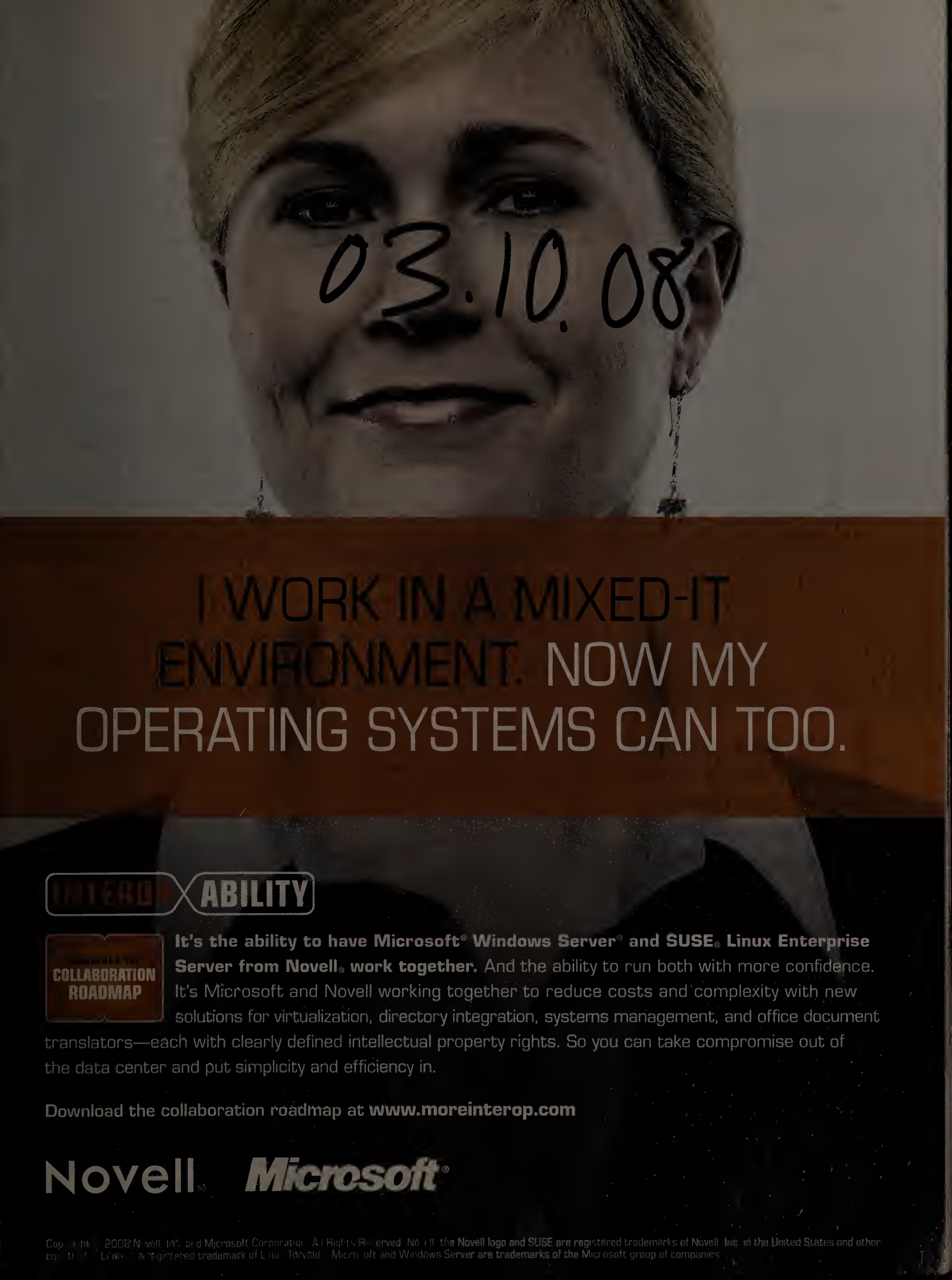
William Hurley, (a.k.a. 'whurley')

BMC's chief architect of **open-source strategy** talks about **community**, his role as a **connector** and the benefits and limits of **skateboard politics.**

William Hurley has been involved in IT for more than half his life, starting after a car accident that left him badly injured. While recovering, he began hacking XObjects for MacroMind and later Macromedia Director in the open-source multimedia community. He then went to work at Apple and IBM before joining a string of start-ups. Last February, Hurley joined BMC Software, where he is combining his passion for open source with his longtime work in IT systems management.

How does an open-source activist end up at a traditional company like BMC? They were looking for an open-source leader who could say, "Here's how you take a company that for 27 years has done proprietary software and integrate open source into their business model in every way, shape and form." This isn't about trying to jump onto the open-source marketing bandwagon. It's about directly interacting with customers in how you can apply open source to build better products.

Continued on page 20



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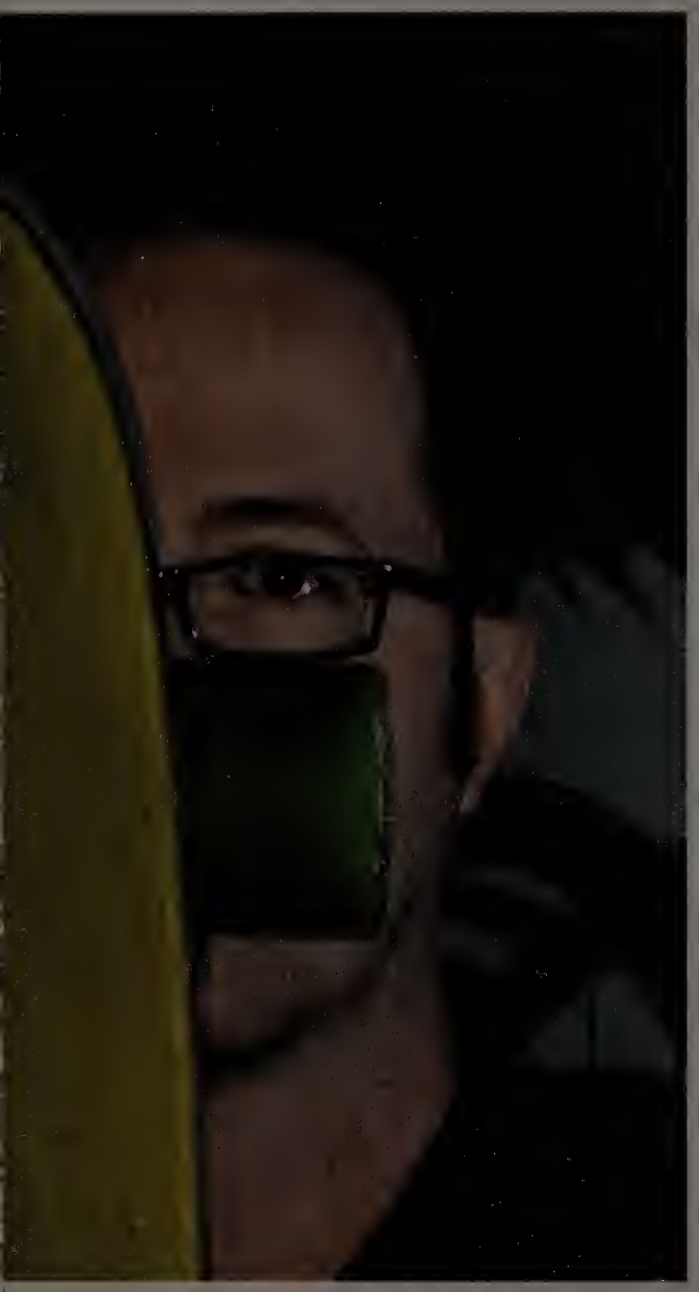

“As a systems dude, I think that most large systems can only be changed from the inside.

Continued from page 18

I'm a guy who likes a challenge, and even with the support of the management team that I have here, you're still talking about a very large company, a pretty big ship. They don't turn on a dime, so this is a pretty big commitment by both sides.

The company has been working with open source for a number of years; they just haven't been bragging about it. [But] there's a huge difference [between] being a leader of a community and being a member of a community. And BMC is a member of our community.

How have you been able to bring your community-based thinking into BMC? When I was working in open-source systems management, I wanted to change the world of systems management overall. But as a systems dude, I think that most large systems can only be changed from the inside. So to really move systems management forward, and my career, rather than doing a start-up and trying to circumvent everything, it made more sense to find a willing partner that I could work with, that has the visibility, that has the resources, that is the establishment, to kind of change things from the inside out. That sums up why I went to an established player. And why BMC? Because the management team gets it. They want to do open source right.

Is open source being looked at differently than in the past by corporate users? I think that if you look at the Richard Stallmans and the Eric Raymonds and all of these people, that was kind of like Open Source 1.0. And I think there [are] a bunch of people trying to commercialize it, now that there's a bunch of people who are using it as a marketing ploy, now that it's kind of becoming a common thing. So I think there [are] going to be new leaders, and I think those new leaders are not going to be those iconic leaders of the past. Rather, they're going to be more connectors — people who sit on both sides of the fence. I don't by any means think I'm the only one. But that's what I saw coming, and that's kind of where I put my career.

I have done patents in the past. I have worked at IBM. I have managed large groups. I have managed software projects. But I've always at the same time been doing open source. My career has developed participating in both of these worlds. The thing I always say is, it's not about the code; it's about the community. It's the way you interact, the layer that you create between you and the people using your product. You're making that product with them rather than for them.

If you look at it that way, then you can see the obvious reasons that a company like BMC would be interested in being the first to jump out there.

You're the guy known for riding your big green skateboard at conferences. How do you fit in at BMC? I clean up rather nicely, [but] it's definitely a step into a different direction for them.

I did work at IBM as a master inventor. I've done the customer proposals; I've worn the suits. It's not that I don't have any experience in that. That helps a lot. [And] they've been very open-minded. They're ready for this new open-source energy for the company.

BMC's not as traditional a company as you might think. In my hallway, there [are] tons of people in flip-flops and shorts. The executives have really turned it around in the last few years. These are some forward-thinking guys. It's actually not hard to fit in with them at all.

Does that skateboard help you bridge the gap between the open-source community and traditional IT vendors and customers? Does it help me with the open-source community? Absolutely not. The currency in the open-source community is credibility.

With executives — I went with one of the executives at BMC to meet with a customer after I joined the company. I was wearing a jacket; I had a suit. The BMC executive said, “What are you doing? What are you wearing?” They wanted me to be just like I am like every day, because the expectation with the customer was that I would be different, that it would be refreshing. That was my first and last attempt to dress up for any meeting at BMC. I think they expect me to be different.

— *Interview by* **Todd R. Weiss**

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HOSTILE
bluffing

Big Brother Really IS Watching

Homeland Security is bankrolling futuristic technology to **nab terrorists before they strike.**

BY ROBERT L. MITCHELL

THE YEAR is 2012. As soon as you walk into the airport, the machines are watching. Are you a tourist — or a terrorist posing as one? As you answer a few questions at the security checkpoint, the systems begin sizing you up. An array of sensors — video, audio, laser, infrared — feeds a stream of real-time data about you to a computer that uses specially developed algorithms to spot suspicious people.

The system interprets your gestures and facial expressions, analyzes your voice and virtually probes your body to determine your temperature, heart rate, respiration rate and other physiological characteristics — all in an effort to determine whether you are trying to deceive. Fail the test, and you'll be pulled aside for a more aggressive interrogation and searches.

That scenario may sound like science fiction, but the U.S. Department of Homeland Security is deadly serious about making it a reality.

Interest in the use of what some researchers call behavioral profiling (the DHS prefers to call it assessing "culturally neutral behaviors") for deception detection intensified last July, when the department's human factors division asked researchers to develop technologies to support Project Hostile Intent, an initiative to build systems that automatically identify and analyze behavioral and physiological cues associated with deception. That project is part of a broader initiative called Future Attribute Screening Technologies Mobile Module, which seeks to create self-contained, automated screening systems that are portable and relatively easy to implement.

The DHS has aggressive plans for the technology. There will be an initial demonstration for the Transportation Security Administration (TSA) early this year, followed by test deployments in 2010. By 2012, if all goes well, the agency hopes to begin deploying automated test systems at airports, border checkpoints and other points of entry.

If successful, the technology could also be used in private-sector areas such as building-access control and job candidate screening. Critics, however, say that the system will take much

DAVID HOLLENBACH

longer to develop than the department is predicting — and that it might never work at all.

"It's a good idea fraught with difficulties," says Bruce Schneier, chief technology officer at security consultancy BT Counterpane in Santa Clara, Calif. Schneier notes that focusing on suspicious people is a better idea than trying to detect suspicious objects. The metal-detecting magnetometers that airport screeners have relied on for more than 30 years are easily defeated, he says.

But Schneier thinks that the technology needed for Project Hostile Intent to succeed is still at least 15 years out. "We can't even do facial recognition," he says. "Don't hold your breath."

But Sharla Rausch, director of the DHS's human factors division, says the agency is already seeing positive results. In a controlled lab setting, she says, accuracy rates are in the range of 78% to 81%. At that rate, the tests are still producing too many false positives, however.

"In an operational setting, we need to be at a higher level than that," says Rausch, and she's confident that results will improve. At this point, though, it's still unclear how well the systems will work in real-world settings.

Current research focuses on three key areas. The first is recognition of gestures and so-called microfacial expressions — a poker player might call them "tells" — that flash across a person's face in about one-third of a second. Some researchers say microexpressions can betray a person when he is trying to deceive someone.

The second area is analysis of variations in speech, such as pitch and loudness, for indicators of untruthfulness.

The third is measurement of physiological characteristics such as blood pressure, pulse, skin moisture and respiration that have long been associated with polygraphs, or lie detectors.

By combining the results of all three modalities, the DHS hopes to improve the overall predictive accuracy rate beyond what a polygraph — or any other individual indicator test — can deliver.

That's not a very high bar. The validity of polygraphs has long been questioned by scientists, and despite decades of refinements, lie-detector test results remain inadmissible in court. While the U.S. Department of Defense's Defense Academy for Credibility Assessment (DACA; formerly the Polygraph Institute) puts the median accuracy percentage for the polygraph in the mid-80s when tests are properly administered, others say that number is closer to 50% in the real world and that the results depend heavily on the skills of the examiner.

Schneier goes even further. He says lie detectors rely on "fake technology" that works only in the movies. They remain on the scene, he says, because people *want* them to work.

The presumption that combining the predictive results from the three areas being studied will increase predictive accuracy is also untested.

"We can't find any indicators that this stuff is being combined [in current research]," says Rausch. "The feeling is that [the DHS is] doing some groundbreaking stuff here."

HEARING LIES

Many researchers are already tackling different pieces of the Hostile Intent puzzle. Julia Hirschberg, a computer science professor at Columbia University, is investigating how deception can be detected by picking up on speech characteristics that vary when someone is lying. The research, funded by a DHS grant, has identified 250 "acoustic, intonational and lexical features" that may indicate when a subject is lying. So far, the best accuracy rate is 67%. She admits that's "not great," but it's better than human observation alone, she claims.

The results may not apply to a real-world context, however. Hirschberg's work is based on lab experiments in which the subject presses a pedal when he is lying and machine-learning systems process the results. "It's not ideal," she acknowledges.

Moreover, the accuracy rate in predicting deception varies with cultural background and personality type. Hirschberg says she has identified four or five personality types that could affect how the results should be interpreted. While adjusting for personality type might improve accuracy in cases where the type can be identified, it's doubtful that interviewers in an airport or border setting will have the insight necessary to do so.

Dimitris Metaxas, a professor of computer science in biomedical engineering at Rutgers University, has received funding from both the DHS and the DACA to use technology to track and interpret the meaning of microexpressions and gestures. "I'm trying to find the expressions and body movements that are not normal and could be linked to deception," he says.

While Metaxas says his research focuses on movements of the eyebrows and mouth, as well as various head and

Continued on page 26

Ethical Concerns May Be Premature

ASSUMING THAT the system gets off the ground, Project Hostile Intent also faces challenges from privacy advocates. Although the system would use remote sensors that are physically "noninvasive," and there are no plans for the information to be stored, the amount of personal data that would be gathered concerns privacy advocates – as does the possibility of false positives.

"We are not going to catch any terrorists, but a lot of innocent people, especially racial and ethnic minorities, are going to be trapped in a web of suspicion," says Barry Steinhardt, director of the Technology and Liberty Project at the American Civil Liberties Union.

But Steinhardt isn't really worried. He says Project Hostile Intent is just the latest in a long string of expensive and failed initiatives at Homeland Security and the TSA. "I've done hundreds of interviews about these [airline passenger screening] schemes," he says. "They never work."

Steinhardt adds that "hundreds of billions" of dollars have been wasted on such initiatives since 9/11. "Show me it works before [we] debate the civil liberties consequences," he says.

– ROBERT L. MITCHELL

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Continued from page 24

shoulder gestures, he wouldn't be more specific. That's because the indicators that he is interested in remain secret.

Although the DHS's Rausch believes that microexpressions are involuntary, she doesn't want people to know exactly what expressions the agency will be measuring — just in case.

"Every system can be broken," Metaxas points out.

OBJECTIONS AND OBSTACLES

Skeptics say that no tech-based system will work. The Ekman Group has trained TSA staffers on techniques to help them recognize and interpret microexpressions. The Oakland, Calif.-based consultancy was founded by Paul Ekman, a pioneer in research linking microexpressions to deception. At the TSA, trained officers use the techniques as part of the organization's Screening Passengers Through Observation Techniques program.

John Yuille, the Ekman Group's director, doesn't think the technique can be automated. The discipline is a "social science," he says, and microexpressions merely represent "clues to truthfulness" that require human interpretation. "Our methodology is not amenable to technological intervention," Yuille says.

Metaxas says that what's holding him back at this point isn't technology. "The basic technology to track the face, I've solved that problem," he says, claiming an accuracy rate of 70% to 80% with cameras positioned at distances up to nine feet from the subject. The challenge is optimizing the algorithms that relate those expressions to deception. To do that, he needs more data from psychologists.

The theories linking microexpressions to deception are largely based on academic research that, while tested in lab settings, has not been proved in large-scale, real-world studies.

Rules must also be applied in the correct context. For example, a measurement of something like a microexpression must be associated with what was said at the time, and the meaning of what was said must be correctly interpreted, says Hirschberg. The system must also be able to determine whether there is a mismatch between a given expression or gesture and what was said. "That is very difficult [for a computer] to do," Hirschberg says, so in the lab, the matching work has been done manually.

To refine the algorithms, Metaxas has collaborated with Judee Burgoon, a professor of communication, family studies and human development at the University of Arizona. She says the lack of rigorous research validating the use of microexpressions as indicators of deception "gives everyone pause."

It's not known whether microexpressions correspond with underlying emotions or whether those emotional states correspond to deception, Burgoon says.

While it is believed that microexpressions are involuntary, it's unclear whether subjects can "game the system," as they have done with polygraphs. And many researchers in the field believe that indicators of deception are culturally dependent. That means analysis that doesn't take cultural background into account could amount to ethnic, rather than behavioral, profiling. That's ironic, since using machines to analyze the data is supposed to help eliminate biases associated with human decision-making.

In fact, the development of "culturally neutral" indicators is a stated goal of Project Hostile Intent. Rausch believes that researchers can identify microexpressions and other indicators that are universal, or "cross-cultural." That won't happen in time for the initial test systems. But by 2011, says Rausch, the DHS should have systems ready for testing that use only culturally neutral indicators.

For Metaxas, the challenge now is to prove that the fundamental assumptions linking microexpressions to deception are correct. "What I hope I can do is validate and verify the psychology," he says. To do that, he needs to conduct further tests involving interviews in real-world situations. But that won't be easy. Privacy and security concerns have prevented Metaxas and other researchers from monitoring interrogations or conducting interviews in settings such as airports or immigration points.

Even the DHS faces obstacles in testing the technology in the field, Rausch acknowledges. And in real-world testing, Hirshberg says, there's another problem: "You don't really know when the person's lying."

With an aggressive timeline for deployment, Rausch is well aware of the challenges, and she cautions that the technology is far from complete. "We're very much in a basic research stage," she says.

Even if Project Hostile Intent ultimately succeeds, it will not be a panacea for preventing terrorism, says Schneier. The risk can be reduced, but not eliminated.

"If we had perfect security in airports, terrorists would go bomb shopping malls," he says. "You'll never be secure by defending targets." ■

Truth, Lies and MRIs

JOEL HUIZENGA THINKS HE HAS FOUND THE PERFECT LIE DETECTOR. While traditional polygraphs measure physiological characteristics such as heart rate, blood pressure, respiration and skin conductivity, Huizenga's start-up company is using a magnetic resonance imaging machine (MRI) to watch what's happening inside the human brain.

More than 90 years after its invention, the traditional polygraph remains controversial – the validity of its tests is still questioned, and its results are inadmissible in court.

But Huizenga, president of No Lie MRI in San Diego, thinks he's invented a foolproof test.

"To lie, you have to stop the truth from coming out and then you have to construct the lie. Those two things can be seen in the brain," he claims.

Unlike when using a polygraph, an interviewer doesn't have to interpret MRI examination results, which are processed by a computer program.

Because it tests central brain function rather than autonomic nervous system responses, the system can't be fooled, Huizenga says. That assertion has yet to be proved in scientifically validated real-world tests, however.

The technique is based on research developed at the University of Pennsylvania and funded by a federal grant.

But don't expect to see the TSA feeding airline passengers through MRI tunnels anytime soon. The multimillion-dollar machines are currently too bulky to be moved easily, and they're too expensive.

– ROBERT L. MITCHELL

IBM

_INFRASTRUCTURE LOG

_DAY 84: Feeling really disconnected. We're not getting the most out of our existing assets. Service and application integration is a nightmare. We've got to stop working on these islands.

_Please rescue me from this lack of connectivity.

_DAY 87: We're saved! With IBM WebSphere solutions we can service-enable and connect our existing assets for mission-critical goals. Now we can reuse existing applications and save money by eliminating redundant systems. We're ready for any SOA integration project.

_Plus, no more jellyfish stings.

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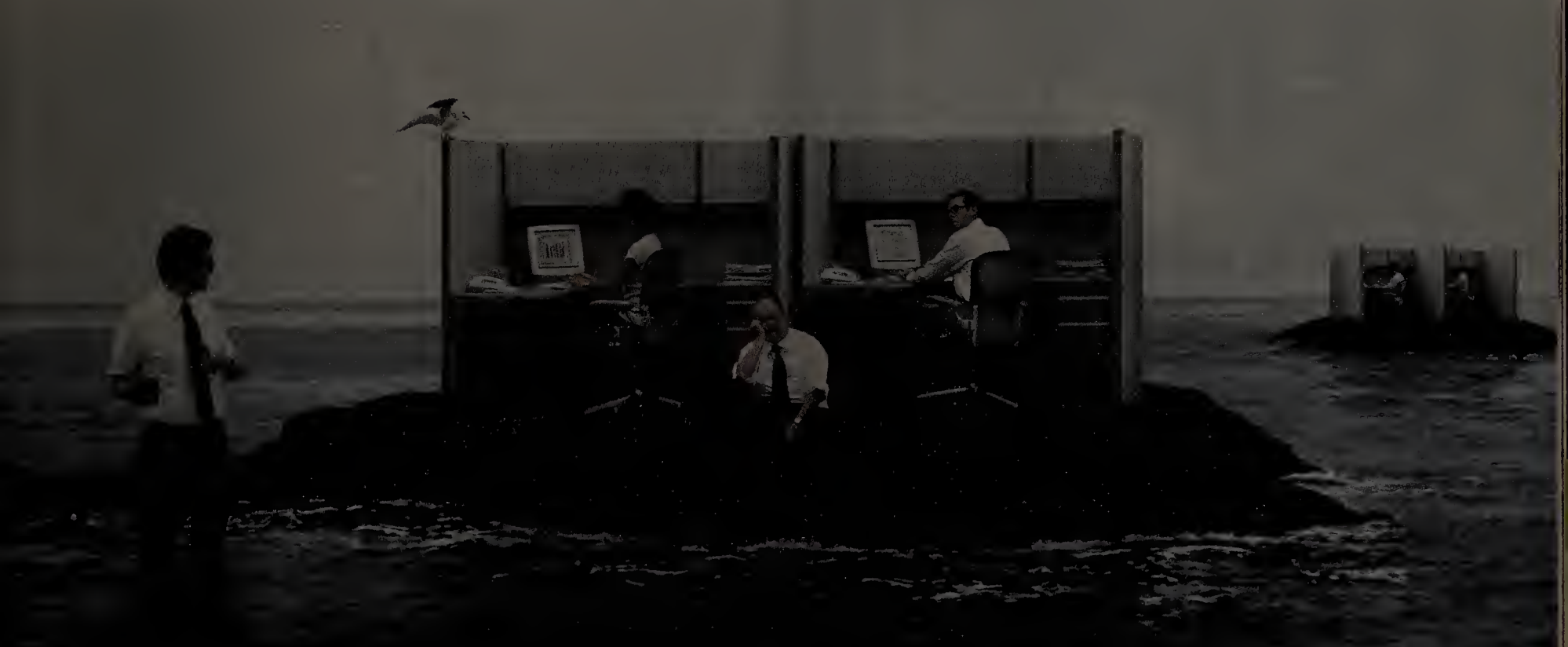

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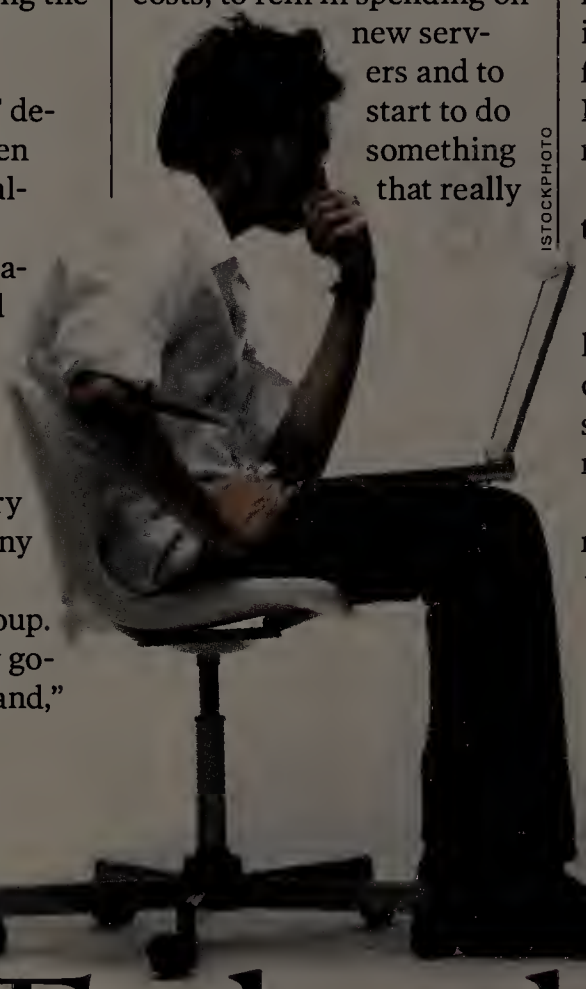
8 Technologies To Master in '08

Here's a career to-do list for the new year.

By Mary K. Pratt

TO KEEP ahead of the eight ball in '08, you'll need business knowledge, a keen awareness of hot technologies and new approaches, and a clear-eyed understanding of what is possible. Here are eight hot technologies that experts say should be on your front burner during the year ahead.



ISTOCKPHOTO

1 VIRTUALIZATION. IT departments have been playing with virtualization as a way to increase hardware utilization and flexibility and help control costs, but that game is just heating up, says Pamela Taylor, a solutions architect at a subsidiary of a Fortune 50 company and vice president of Share, an IBM user group. "Virtualization is only going to continue to expand," she says.

There are plenty of opportunities to take advantage of this trend. "The training for server and storage virtualization is well under way," Taylor says. If you want to further capitalize on the technology, look at expanding virtualization beyond servers and storage.

"It's a concrete way to rein in infrastructure costs like electricity and cooling costs, to rein in spending on new servers and to start to do something that really speaks to the concern about the carbon footprint," adds Taylor.

2 AUTOMATION. As you implement virtualization, you can also start capitalizing on automation. In IT, that means using policy engines that decide when to do various tasks within the infrastructure.

Automation can reduce human errors, cut costs, increase availability and add flexibility, says Jonathan Eunice, an analyst at Illuminata Inc. in Nashua, N.H.

Consider, for example, automation platforms designed to reduce your off-hours power drain by moving high-demand applications onto a couple of servers and shutting down the rest at night, Eunice says.

"Automation gives you a more flexible environment that's not in firefighting mode all the time," he says, noting that IT departments using automation spend less time on IT grunt work and are able to focus more attention on strategic operations.

And though today's automation tends to involve the server, storage and network aspects of the data center, it will spread to the middleware and application infrastructure as virtualization expands there, Eunice says.

Get started with automation in one area to understand how it works and the rewards it can deliver, he suggests.

3 REAL-TIME COLLABORATION. Like it or not, workers throughout your company are using outside collaboration tools such as Google Docs. That means sensitive corporate information may be sitting on outsider servers rather than behind your firewalls.

Workers are drawn to these tools because they're easy to use, says Andrew McAfee, an associate professor of business administration in Harvard Business School's Technology and Operations Management Unit. IT's job is to help formulate policies for use of these tools or to implement internal alternatives that are equally user-friendly, he says.

4 WEB 2.0. Lots of people spend their personal time blogging and using other Web 2.0 technologies. Many expect to use the same tools at work, and some are already doing so — with or without IT's blessing.

IT needs to be a leader in championing these tools by folding them into the existing infrastructure in a way that is convenient for users and works with corporate security and privacy requirements, McAffee says.

"The smart choice for both the [business] and IT

Continued on page 30

_INFRASTRUCTURE LOG

_DAY 69: All we need is one specific piece of info. Gil almost had it, but his hand cramped. How are we supposed to find trusted business information when these massive volumes of conflicting info keep pouring in?

_Gil just grabbed a stuffed panda.

_DAY 71: The answer: IBM solutions for leveraging information. Now we can cleanse info and standardize source data fields for consistency and accuracy. I can create a single, accurate and unified record of info across our source systems. Everyone can make better decisions.

_Just in time—I think we ran out of quarters.

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Continued from page 28

side is to be positive about this development," he adds.

5 IDEATION. The knowledge economy grows on good ideas, and IT needs to provide the tools to help foster and manage them. The good news is that such tools are increasingly common. "There are online tools that let people post ideas and work on each other's ideas, and we're seeing more and more organizations put together platforms to push and develop ideas," says Jackie Fenn, an analyst at Gartner Inc.

But IT should do more than implement its choice of idea management software. Considering that most innovations have significant IT components, Fenn says it behooves IT workers to be leaders in the ideation process. You can help manage the process by working with business leaders to pose and frame the right questions to get useful responses and drive innovative thinking.

> **"The smart choice for both the [business] and IT side is to be positive about [Web 2.0] development.**
>
> **ANDREW McAFFEE,**
> ASSOCIATE PROFESSOR,
> HARVARD BUSINESS SCHOOL

6 CONSUMER-ORIENTED DEVICES. Employees are increasingly bringing their own hardware, software and wireless devices to work, says Michael Gartenberg, a vice president and research director at JupiterResearch LLC in New York. "The gadgets that consumers are buying today are more powerful than the PCs that IT had to manage just a few years ago, and IT has to be able to respond in a positive way and not just say no," he says.

That's not to suggest, however, that IT should bless everything that the cat drags in. IT must understand what it can integrate and support, and it must know what could put the organization at risk. "They need to be prepared to integrate some and ban others," says Gartenberg, who is a *Computerworld* columnist.

7 UNIFIED COMMUNICATIONS. Unified communications is on many IT radar screens, and Gartner says most companies will implement unified systems over the next three years. But moving to unified communications won't involve just telephony and messaging, says Sam Helmich, vice president of technology at ADM Investor Services Inc. in Chicago. It means tying together traditional telephone features, desktop videoconferencing, customer relationship management systems and other applications to improve efficiency in business processes.

There's a shortage of skilled workers in this area, but Helmich says that companies can get the training their workers need by partnering with vendors — which is what he did at his company.

If that's not an option, you can still get started. "There's enough stuff on the Internet that workers can go out and read how the different systems work," Helmich says.

Next Up . . .

TODAY'S BLEEDING-EDGE technologies will soon be part of the corporate infrastructure, but there's always something new just around the corner. Gartner analyst Jackie Fenn and Eric Overby, an assistant professor at the Georgia Institute of Technology's College of Management, highlight a few exciting technologies in the pipeline:

■ **3-D printing.** This technology functions like ink-jet printing, except it lays down a physical material that builds up layer by layer. Using 3-D printing, architects could build models from their blueprints, and manufacturers could build prototypes from their product designs. In the corporate world, IT will have to integrate 3-D printers as they do existing printers and today's smart copiers. Technical workers might even be called upon to develop design skills to help others in the office translate two-dimensional designs into 3-D plans.

■ **Infrastructure installed on mobile robots.** Hospitals are beginning to use robots equipped with videoconferencing gear to enable doctors to interact with patients even if they're not physically together. These robots can travel from room to room and send information to a doctor who might be busy at another location. This technology eliminates the need to install duplicate pieces of expensive equipment in every patient room and the need to have staffers wheel mobile equipment from patient to patient. Similar technology is also being used in large warehouses, where robots receive orders and assemble the requested materials. "This has potential anywhere you have a large physical plant," Fenn says. IT needs to be prepared to integrate this equipment into the infrastructure as well as handle the wireless and security demands that come with such devices.

■ **Automated continuous monitoring systems and other data-collecting technologies.** Wearable computers can monitor an individual's health, and RFID chips can track a product throughout its life. How companies will capitalize on these applications is still being determined, but they are just over the horizon.

– MARY K. PRATT

8 INTEGRATION. IT and business departments have been building islands of applications and data for years, and despite repeated attempts to integrate them, many of those islands remain. But business demands for increased efficiencies in the face of exponential increases in the quantity of data, along with the development of new integration tools, should make this top of mind for IT in '08, Eunice says.

It's past time to get serious and build bridges so users can get all the information they need in one place. "Whether it's in manufacturing or health care or any industry, if you can connect the dots, you can be much more efficient," Eunice says.

If you're a database administrator, an applications author or a business analyst, you're on the hot seat here, because you're the one who will need to understand which disparate sets of data need to be integrated, he says, adding, "It will be a hot topic for the next 10 years."

IT shops have a choice of technology to do the job, Eunice adds, but the most important decision is to get started. ■

Pratt *is a* Computerworld *contributing writer in Waltham, Mass. Contact her at marykpratt@verizon.net.*

IBM

_INFRASTRUCTURE LOG

_DAY 82: There are so many risks out there. Traffic spikes, natural disasters, mergers. How do we prepare? One in three companies don't recover from unplanned downtime.[1] Would we?

_Gil wrapped everything with bubble wrap. Just to be safe.

_DAY 83: I'm preparing with IBM Business Resilience Solutions. IBM Business Continuity Services help us assess our risks and design a proactive plan to deal with them. IBM Tivoli gives us the visibility to diagnose and fix infrastructure problems. And the robust availability features of the IBM System p™ give us maximum uptime.

_No more bubble wrap. And I have to mail a package. Great.

02.04.08

Tivoli.

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[1] Source: "Business Continuity Unwrapped." Continuity Central, 2006, www.continuitycentral.com/feature0358.htm.

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'Ghost Servers' That Haunt Your Bottom Line

Who ya gonna call? By Darrell Dunn

A RECENT ASSET inventory at Fujitsu Services unearthed a lot of old memories — and not the good kind.

"We had IT equipment on the floor that people within the company thought we had gotten rid of years ago," says Mark Scott, global data center delivery manager at Fujitsu Services Holdings PLC, one of the largest IT services providers in the world. "We looked deeper and found out we were also still paying lease and maintenance on the equipment. We even found that we were paying lease and maintenance on equipment that had been removed from our data centers."

Fujitsu Services isn't alone. So-called ghost servers are haunting bottom lines everywhere. Like electronic zombies, these forgotten pieces of equipment might as well be dead when it comes to improving business results, but they are very much alive when it comes to eating up IT budgets.

The unproductive — and usually undocumented — servers take up valuable real estate, consume increasingly expensive electricity and, in some cases, require ongoing maintenance and lease payments.

> **"We had IT equipment on the floor that people within the company thought we had gotten rid of years ago.**
>
> **MARK SCOTT,** GLOBAL DATA CENTER DELIVERY MANAGER, FUJITSU SERVICES

"You can find ghost servers in a lot of enterprises," says John Phelps, an analyst at Gartner Inc. "And the larger and more diverse the company, the harder it can be to have a single group or technology platform that provides control over all corporate assets."

Based on case studies of two large corporate data center operations and analysis of anecdotal reports from many customers, Sun Microsystems Inc. maintains that 8% to 10% of all servers in big companies have no identifiable function. In one of the data center studies, Sun found 150 ghost servers in an installation of 1,800. In the other, it found 354 ghost servers in an installation of 3,500.

One of the companies studied was Sun itself. Sun used system performance tools to monitor CPU utilization and I/O and network traffic over the course of a month and sorted out machines with zero utilization.

Sun removed the questionable servers from operation for 90 days and watched what happened. At the end of the period, it found that 60% of the servers could be permanently decommissioned, says Mark Monroe, director of sustainable computing at Sun. The company now conducts quarterly reviews of utilization rates.

"It's hard to get people to admit they have unused infrastructure," Monroe says. "It's expensive, wasteful, and having a CIO admit he's got millions of dollars of idle assets lying around could get a guy fired. I think we can remove some of the stigma by talking about the facts and having people realize it's worse just to leave them lying around."

The cost of running a server for three years exceeds its original acquisition cost, so keeping the ghost servers around has an easily measured effect on energy budgets. Identifying and eliminating such wasted resources are key components of green computing, Monroe says.

Fortunately, the latest asset management and configuration software can help businesses find and shut down useless machines.

Fujitsu Services operates seven Fujitsu-owned data centers in the U.K. with more

Continued on page 34

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Continued from page 32
than 200,000 square feet of floor space, and it manages 11 customer-owned facilities. Through its outsourcing business, Fujitsu Services has acquired data center facilities and IT equipment from a variety of sources, and much of the equipment came with no asset or configuration management processes in place, says Scott.

The company had previously used a configuration cataloging system that recorded only the location of equipment on the floor, without providing any insight into its specific use.

But Fujitsu Services wanted to get a comprehensive inventory and create an asset management strategy that would allow it to maximize existing data center space and continue to grow. So in 2005, the company started to deploy Aperture Technologies Inc.'s Vista data center resource management system — and then it began to unearth ghost servers and other wasted resources.

Since then, by extending the asset management systems across its entire U.K.-based data center operation, Fujitsu Services has reduced its operational costs and passed the savings on to customers, Scott says.

For example, since customers are generally charged for the floor space they use within the data centers, the removal of unproductive equipment has allowed Fujitsu Services to reduce specific hosting charges for them. For example, Scott says, if Fujitsu Services can reduce the footprint by 10%, that 10% savings can be passed along to the customer.

The company is also developing the ability to invoice for the actual power required by individual customer installations, instead of invoicing for power based on the floor space used by the servers, as it currently does.

"We also found lots of badly installed equipment," Scott says. The poor installation processes had led to what he characterized as

Energy Costs: The Ultimate Ghostbuster

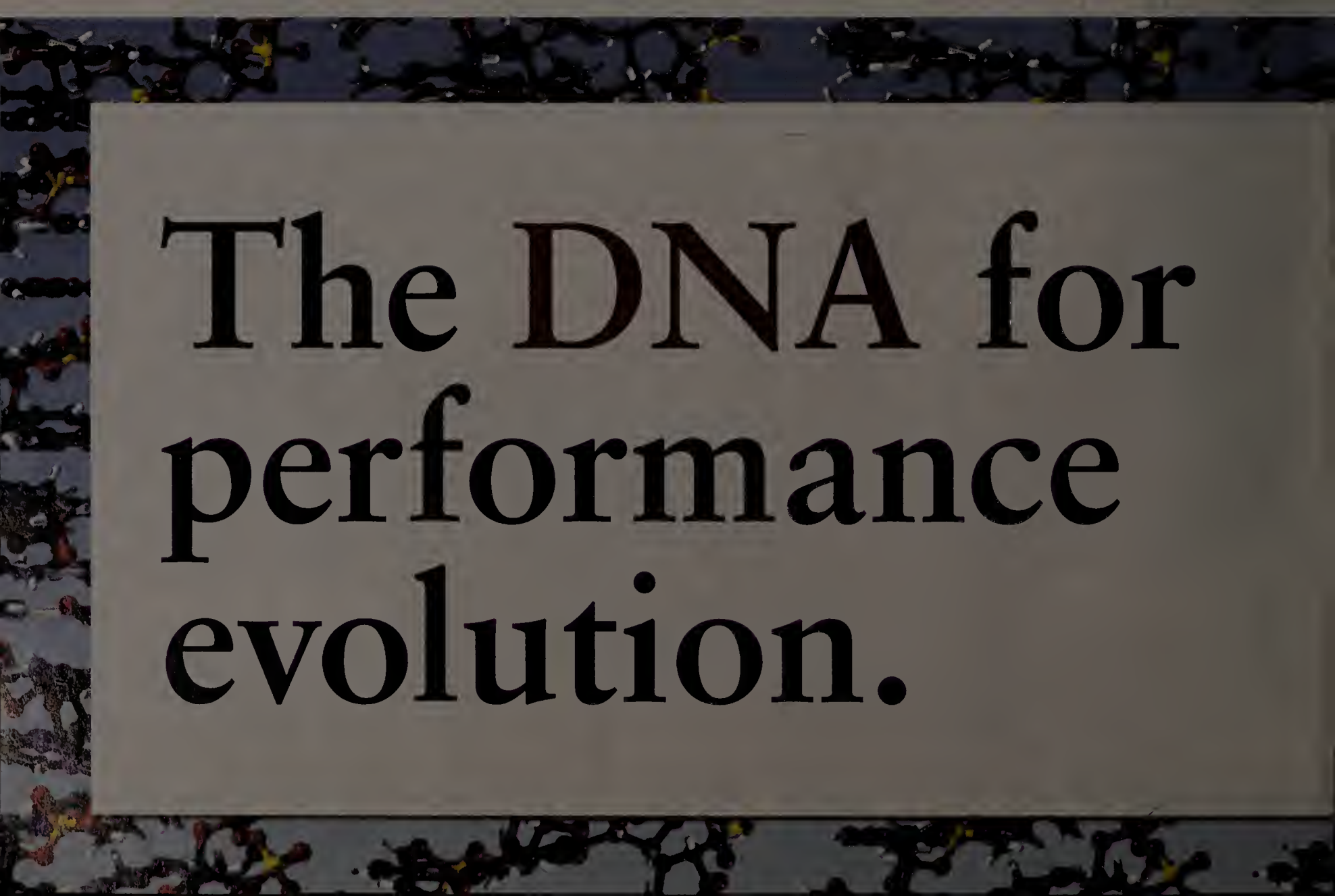
The rising cost of energy is rousing the ghostbusters at many companies.

In August, the Environmental Protection Agency published a report that documented data center power usage. It found that data centers in the U.S. consumed about 60 billion kilowatt-hours in 2006, or about 1.5% of total electricity nationwide.

The EPA points out that data center energy use has doubled in the past five years and is expected to double again in the next five years to an annual cost of about $7.4 billion.

The agency says that existing technologies and strategies could reduce typical server energy use by 25%, and even greater savings are possible through more-advanced technologies.

– DARRELL DUNN



vulnerabilities that made it difficult for his company to meet customer uptime requirements.

"The result was really that we had actually built vulnerabilities into the operation," Scott explains. "It was a real wake-up call. We now have a complete vulnerability check and can control installations from the beginning to end."

Alticor Inc., the parent company of businesses such as Amway Corp., Quixtar Inc. and Access Business Group LLC, tracks its software and hardware assets with a combination of management tools, including BMC Software Inc.'s Remedy Service Management and Hewlett-Packard Co.'s Systems Insight Manager.

In 2006, using the software, Alticor found that more than 200 of its servers, or about a third of its 650 x86-processor-based servers, were running at utilization rates of 10% or less, says Randy Gast, supervisor of server technology at Alticor.

Even scarier, these underused servers had accumulated over the previous three years without the IT department's knowledge as equipment was bought to handle individual applications or affiliate requirements.

Working with virtualization specialist VMware Inc., Alticor has embarked on an effort to consolidate hardware and increase overall utilization rates to between 60% and 70%, Gast says. To date, Alticor has consolidated 150 of the unproductive servers onto seven servers using virtualization software.

Rockwell Bonecutter, head of data center technology and operations at Accenture Ltd., says he believes that many ghost servers were laid to rest during corporate Y2k efforts. In the intervening years, however, there has been a significant growth of systems that operate at 5% utilization or less, often because of poor communication and asset management within the company.

"When it comes to servers that nobody knows about that are sitting for years and nobody has touched, there are probably examples in every IT environment, but it's obviously impossible to measure what you don't know exists," Bonecutter says. "It is not unusual to find that 40% of all servers on a floor could be consolidated and virtualized out of the environment."

But consolidation through virtualization is no panacea. It has led to the new phenomenon of virtual ghost servers. The ease and quickness with which virtual servers can be created can leave servers cluttered with numerous poorly documented virtual machines that were created for short-term or now-abandoned projects.

Still, believing that ghost servers exist and knowing how to look for them is half the battle. With tools offering a more holistic view of assets, and policies in place to guide a formal decommissioning process, businesses can now reduce the risk and associated costs of ghost servers — without needing to call the ghostbusters. ■

Dunn *is a freelance reporter in Fort Worth, Texas, with 20 years of experience covering business technology and enterprise IT. Contact him at darrelldunn@sbcglobal.net.*

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An Audit Can Be An Opportunity

If the auditors **pay attention to the right things,** you might be able to shake loose **much-needed funds.**

WHEN I was invited to a meeting to discuss audits and saw that some representatives of a Big Four consulting company would be there, I was glad the time was open in my schedule. I don't have any money in my budget for external audits, much as I would like to, and I wanted to hear what was being planned.

At the meeting, I discovered that our chief financial officer had hired an internal auditor, who then received a nice budget for some external audits. Listening to the new auditor talk, it was clear that he didn't know much about our company, and he knew nothing about the assessments I had conducted.

I filled him in on what I did and also noted that the last time our company hired a Big Four firm to conduct a risk assessment, we ended up with some nice-looking binders, which are currently collecting dust in several offices around the company. Of course, we got more out of the assessment than that. For example, we got a soft copy of the report, which I posted on the intranet. Although I've announced its availability many times, no one has ever accessed it.

With such a dismal result last time, why am I so keen for another external audit? Because I've decided to take a different approach this time. Rather than have someone get big bucks to tell me something I already know, I want to steer this audit into directions that will accelerate some initiatives regarding intellectual property (IP) protection.

I've been trying for some time now to get valuations of our IP. So far, I haven't been able to get the lines of business to take the time to assess the value of the IP they are responsible for. What sort of financial hit would we take if some of the company's source code, design documents or service manuals were lost or stolen? (I've written about some of this before.) I know that the consequences wouldn't be pretty, but I don't have any real numbers.

■ The last thing I need is another external audit telling me things that I already know.

DIFFERENT APPROACH

I want this audit then to identify our most critical and valuable data. If our CFO is willing to spend upward of $40,000 for this audit engagement, the business divisions will surely take the time to meet with the consultants.

I want the auditors to come back with a report that identifies critical IP and places a monetary value on that data. Then I would like them to evaluate our ability to protect that data. I know that they will find that our IP resides in many data repositories, including network file shares (on both Unix and Windows), tape drives, SANs, local desktops, e-mail attachments and public folders.

What I hope to come away with instead of dusty binders is a comprehensive report that says that because of the nature of our business and corporate culture, we would face a logistical nightmare in trying to consolidate critical IP in a single location. I expect that the auditors would then suggest a compensating control of monitoring our network for IP loss.

The payoff would be getting funding to expand our installation of an IP leakage-detection tool from Mountain View, Calif.-based Reconnex. Right now, we have one Reconnex sensor, and that just isn't sufficient to monitor a network as large and complex as ours.

I've asked for additional funds, but I just haven't been able to shake any loose, since the company is in cost-cutting mode. Upper management feels that our money would be better spent in generating additional sales. This audit report should show that we're being foolish not to protect what we already have. ■

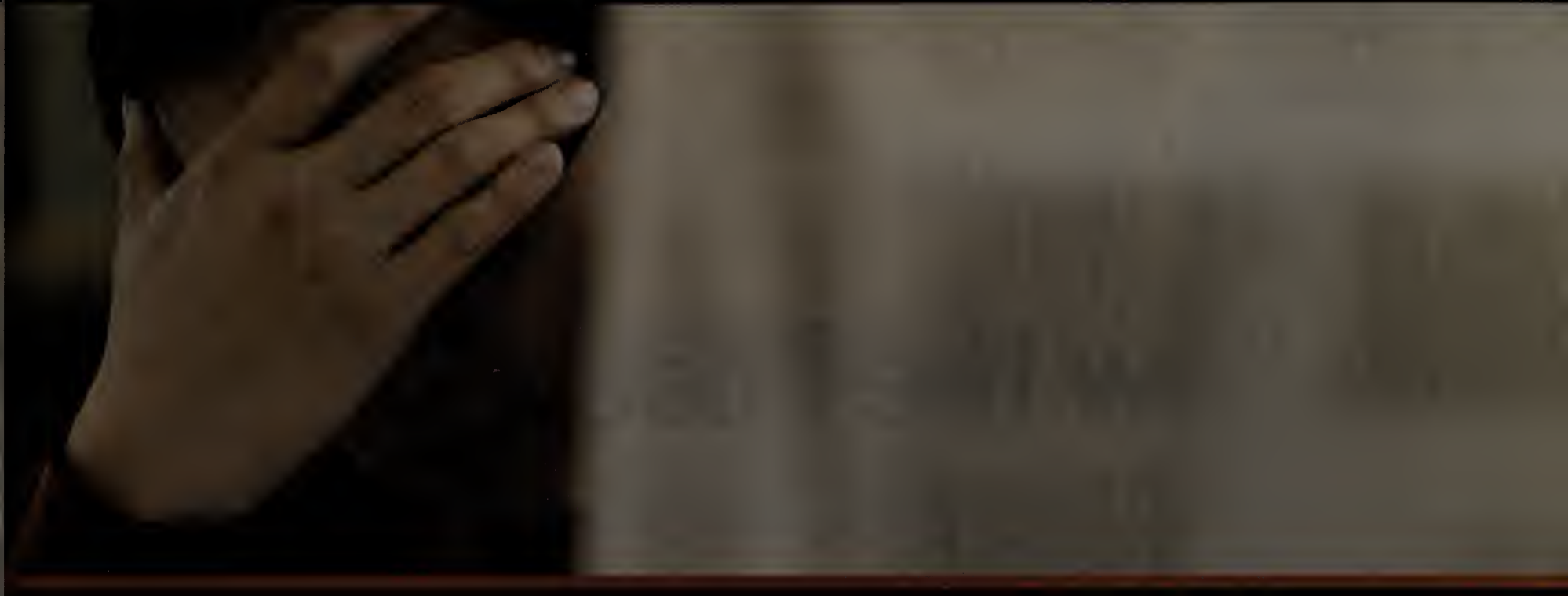
This week's journal is written by a real security manager, **"Mathias Thurman,"** *whose name and employer have been disguised for obvious reasons. Contact him at mathias_thurman@yahoo.com.*

Trouble Ticket

ISSUE: There's no funding available for a monitoring tool that could help ensure that IP doesn't wind up in the wrong hands.

ACTION PLAN: "Steer" an external audit so the report shows how essential this tool is.

JOIN IN
To join the discussions about security, go to **computerworld.com/blogs/security.**



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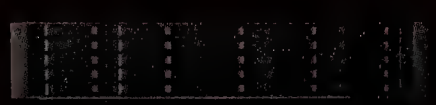

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■ OPINION

Bart Perkins

Follow the Loser

IF ONE of your New Year's resolutions is to find a new job, consider an often-overlooked criterion: the reputation of your predecessor. You might want to pass up the post that was previously filled by an individual who was valued and respected. Instead, choose the job where your predecessor was perceived as a failure. You will work harder during your first year (to fix existing problems and rebuild IT's credibility), but you'll have a better chance of succeeding in the long run.

If your predecessor was held in low esteem, you start the job with multiple advantages. Here are some things you can do:

Capitalize on quick wins. Most IT organizations have overlooked opportunities to save money or improve service. If your predecessor was incompetent, distracted or scrambling to save his job, he probably ignored some opportunities. Follow the money. A careful review of IT spending and service levels may reveal opportunities for consolidation, renegotiation or other improvements. Remember to include outsourcing agreements in your review. (Successful predecessors typically leave fewer opportunities for these quick improvements.)

Blame problems on your predecessor. For the first six months, you get to blame any problems on the idiot you replaced and (rightly) claim that you are just cleaning up the messes he left. Use this honeymoon period to create an objective assessment of departmental strengths and weaknesses. This baseline will serve as a valuable reference point for measuring your progress in future years, even if you have not fixed every problem.

Rebuild the IT team. If your predecessor was an incompetent leader, some changes will probably be required. Your best staffers may be jumping ship, and people who opt to stay may be in the wrong jobs. If IT's reputation has been tainted, you will likely get support for reorganizing your department or hiring additional staffers. And you will probably get both sympathy and action from human resources executives and others. (Following a successful predecessor gives you less freedom to change the organization or the people.)

■ If your predecessor is considered a failure, you are granted credibility just because you have a pulse.

Ask hard questions. As a newcomer, you have an opportunity to question everything. For example, you can ask to see the business case and the work plan for the sacred-cow project that has gone in the ditch. If business imperatives have changed or the project appears destined for failure, pointed questions can help obtain the necessary buy-in to restructure or cancel the effort.

Gain instant credibility. If your predecessor is considered a failure, you are granted credibility just because you have a pulse. Then you can earn real credibility over time by helping others solve their problems. Listen carefully for the most frustrating problems, both inside and outside the IT organization. Any improvements help boost your credibility rating.

Acquire necessary resources. Managers who are viewed as incompetent often have a hard time getting sufficient budget, head count or authority. They often have even reasonable resources withheld, and the results can be disastrous. One organization I worked with was so suspicious of its CIO that money for routine server upgrades was repeatedly denied. As servers reached capacity, service levels decreased and further reduced IT's credibility. The new CIO was able to negotiate the required budget easily.

If your predecessor was viewed negatively, the IT organization's reputation may be badly tarnished. Initially, this may be uncomfortable, but it can work to your advantage. Investigate the company's perception of your predecessor before taking a new job. You can leverage someone else's past incompetence into your own personal success and an improved IT organization. For long-term success, don't play follow the leader — play follow the loser. ■

Bart Perkins *is managing partner at Louisville, Ky.-based Leverage Partners Inc., which helps organizations invest well in IT. Contact him at BartPerkins@LeveragePartners.com.*

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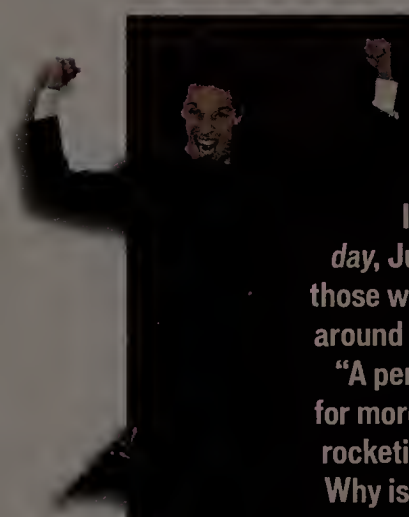
Career Watch



A Job Hopper's Market

In her Sept. 12 column in *Psychology Today*, Judith Sills notes that HR's attitude toward those whose résumés show a tendency to move around a lot has changed over the years.

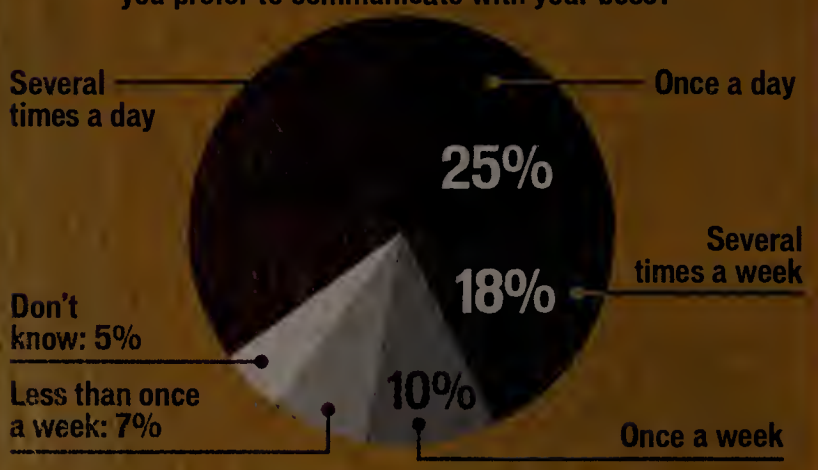
"A person who stays with the same company for more than five years – without signs of skyrocketing upward – might trigger suspicions. Why isn't he interested in making more of a contribution? Is he just looking to milk the company for what he can get for as long as he can get it?"

She goes on to say that we all tend to mix periods of stability and mobility, depending on the opportunities we encounter. But it does seem less advisable today to stay put in one job for an extended period than it did a decade or two ago.

$53,051 Average salary offer that college graduates with computer science majors received in 2007, according to survey results from the National Association of Colleges and Employers.

Talk to Me

Gen Y employees were asked, "How frequently do you prefer to communicate with your boss?"



Source: Q2 2007 Web survey of 1,007 full- and part-time workers between the ages of 21 and 28, conducted by Robert Half International and Yahoo HotJobs

PAGE COMPILED BY JAMIE ECKLE.

■ Q&A

Eric Mosley

The CEO of **Globoforce Inc.** talks about the ins and outs of employee recognition.

Don't employees really want cash above all else? Sure. In a blind survey, employees will predominantly say that they want cash. However, they will also say that they want a 30-hour workweek and no at-risk salary component! What is important is that an employer's compensation strategy creates an environment in which all employees are engaged and working toward a common goal. A total rewards strategy will have many components, including salary, benefits, commissions, rewards and bonuses.

I suppose it would be memorable to receive an iPod from my employer, even with the company logo engraved on the back, but aren't some employees likely to say, "Look, I've already got three iPods. What I need is money for my kids' education"? If an employee says that, then it most likely arises from a salary issue rather than a rewards issue. It is important to have a clear delineation between the corporate budget used for salary, benefits and rewards. And each of these should be paid using a separate "currency," which should be associated with its central purpose. In the area of health benefits, this would be medical insurance; in the area of rewards, this could be a portfolio of low-value awards used to say, "Thank you for a job well done."

What's the single greatest noncash reward you're aware of, in terms of satisfying the recipient and meeting the employer's goals? It is a common misconception that all employees can be provided with a single gift that they will all be satisfied with. It is essential that today's employer accept the fact that their workforce consists of individuals who are also consumers. This is especially true in the global workplace, where employees are dispersed across the globe. The solution is to give locally relevant choices in the form of a local shopping experience where an employee can choose the award that best suits them and their local marketplace.

– JAMIE ECKLE

81% Percentage of participants in a Globoforce webinar last September who said they believe recognition programs are integral to recruiting top talent. Participants were 70 HR professionals and business leaders from Fortune 500 companies.

62% Percentage of respondents who said that disengaged employees lead to poor-quality work and decreased productivity.

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for Acme Packet, Inc.'s Burlington, MA location. Functional testing of software features for VoIP protocols. System configuration management and testing of components to identify scale, performance and stability of code releases. Development/implementation of test strategies/ plans. Test automation. Minimum Requirements: Master's degree (or foreign equivalent) in Electrical Engineering plus two years experience in software testing and telecommunications. Experience must include: Unix/Linux; networking protocols (TCP/IP); VoIP protocols (SS7, SIP, RTP/RTCP, MGCP/SIGTRAN); wireless network architecture designing/planning (GSM/UMTS/ IMS). Mail resumes with cover letters to: Susan Anderson, Acme Packet, Inc., 71 Third Avenue, Burlington, MA 01803.

SharkTank

TRUE TALES OF IT LIFE AS TOLD TO SHARKY

Problem, Defined

Internet filter is installed at this site, and in the beginning, there are complaints from users who can't get to their favorite nonbusiness sites. But after six months and lots of explanations to users, the complaints have stopped. "Then one Saturday evening, a user called me," says an IT pilot fish working there. "He called to report that something must be wrong, because he could get to his lottery numbers tonight. I told him thanks, and that I would inform the individual in charge of the filter on Monday morning, as it wasn't stopping anything production-critical during the weekend hours. I still can't decide which is funnier: the fact that apparently every day for nearly six months this user tried to get to his lottery numbers even though the page should have never loaded again – or that, when he actually was able to, he reported it as a problem."

Secure, Defined

There's a break-in at this site, and fortunately there are high-tech security cameras in place that may have a good picture of the perps. But when the police ask to see the footage, there's a problem: No one seems to know how to get access to that stored video. "Management had decided that no one would ever want to see the video, so no monitor or software is included," groans an insider pilot fish. "The system supplier has been offended by other things that have occurred and will not help, so we're pleading with the manufacturer to help us get the video from the very proprietary system. We're now working on attempt No. 4 to get files viewed so police have a shot at seeing who did what. At this point, it doesn't look like we're ever going to know."

Undefined

User calls pilot fish with password problems; fish resets user's password and hangs up. Simple enough, right? But user soon calls back. "When he logs in for the first time, the system prompts him to change his password," says fish. "He tries, but it always fails with a message that says, 'Password can't contain consecutive characters.' I explain that what that is saying is he can't use the same character twice, like *HH*." This time, fish stays on the line as user tries again. After 10 minutes and many failures, he asks user exactly what the problem password is. "The password ends with '2001,' " sighs fish. "I explain the problem, and the user says, 'If you had told me that in the first place, I wouldn't be having all these problems. All you told me is I couldn't use *HH*. You never said anything about not using *OO*.' I guess it was all my fault for not giving him enough information."

■ *Sharky wants more than enough information about your true tale of IT life. Send it to me at sharky@computerworld.com, and I'll send you a stylish Shark shirt if I use it.*

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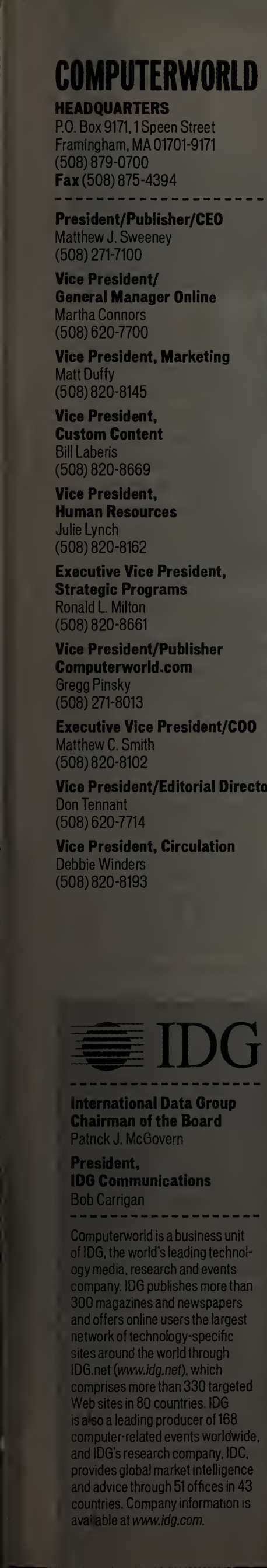

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■ FRANKLY SPEAKING

Frank Hayes

The R Word

MERRILL LYNCH says we're already in a recession. Is that relevant? Morgan Stanley and Goldman Sachs say a U.S. recession this year is now unavoidable. Is that relevant?

Here's what's relevant: Whether they're right or not, you need a plan. And you need to start working on it right now.

Last Monday, Merrill Lynch's chief North American economist, David Rosenberg, issued a research note to clients saying a recession has already arrived. Rosenberg cited rising unemployment and energy costs, a collapsing housing market and dwindling consumer confidence — the usual suspects.

Meanwhile, Morgan Stanley economists Richard Berner and David Greenlaw issued their own research note last week, predicting a mild recession in the first half of 2008. And Goldman Sachs economist Jan Hatzius predicted late last year that a recession in the U.S. was on the way.

Pretty scary, huh?

First, let's get the word out of the way. Recession. Recession. Recession. Feel better? Feel worse? Who cares? The economic facts on the ground remain the same, no matter what label is slapped on them by any economist, politician or pundit.

Recession or not? That's irrelevant to you. You need a plan based on facts, not frightening words. Start collecting them.

■ **Know your CEO.** Does your CEO trust you enough to be candid? If so, talk to him. Otherwise, do some research. How has this executive reacted in the past to a tighter business environment — by shrinking or by attacking competitors?

■ **Know your business.** Real estate is getting ugly, but discount retail may benefit. Some banks are overextended; others see opportunity. Merrill Lynch's Rosenberg predicts consumer discretionary spending, financials and (gulp) tech will be pummeled badly; telecom, health care and utilities have the least downside risk. How hard will your company's customers be hit?

■ Recession or not? That's irrelevant. You need a plan based on facts, not frightening words. Start collecting them.

■ **Know your supply chain.** Who's solid? Who's shaky? Who's likely to cut back on the ability to work with your IT initiatives? And downstream, which big customers are likely to make demands on your IT capabilities?

■ **Know your IT shop.** You have a portfolio of projects. Which ones are bogged down? Which have lost meaningful support from their business sponsors? Where will you redeploy those analysts and developers?

You have a collection of technologies. What fits your future plans? What doesn't but will cost more to replace than you want to spend right now? What will you need to add if your company swallows a competitor or launches a market-share grab?

You have a staff of IT professionals. When push comes to shove, you want to maximize the value of those assets, not just cut head count. How will you keep the people you need? How will you find the new expertise you'll require?

But wait, you might be thinking — *is* there a recession going on? And if there's not, why ask all these questions and build a plan now?

Because right now nobody's pounding on your door. Because it's not a crisis — yet.

Look, usually the times you ask these questions are in the middle of a crisis (or during budgeting, which is just a crisis that's scheduled annually).

But you're not in crisis mode now. With no one breathing down your neck, you can collect more than just the bare facts. You can ask your people more questions and get better answers. You can revisit decisions and second-guess your own analysis. You can research and consult and back up.

This is the time you'll wish you had when the crisis hits.

Use it wisely. Make the plan for your IT shop based on what's relevant to you.

That's the R word that matters. ■

Frank Hayes *is* Computerworld*'s senior news columnist. Contact him at frank_hayes@computerworld.com.*

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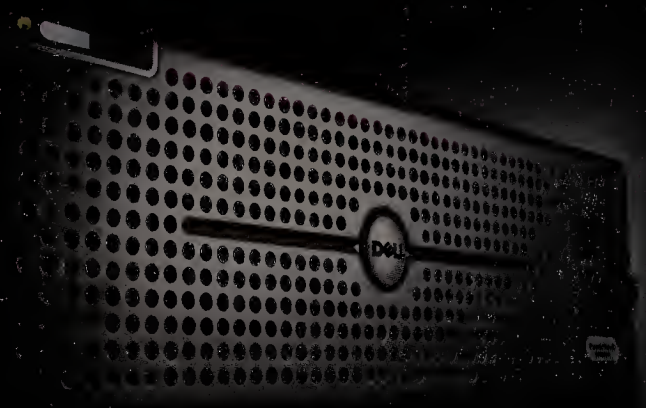

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